37th Annual
Brake Colloquium & Exhibition
September 22-25, 2019
Orlando, FL, USA
“We’re here to network with the entire industry it is a great opportunity to meet different suppliers and different OEs, see the technology that is coming out and network with everybody. It really opens up your eyes and you get to see what the rest of the world is doing in the brake industry from suppliers, OEs and even research with universities.

It’s a must.”

Colter Rogane
Honda R&D Americas
Brake Design Engineer
“It’s always a great event. I’ve been in brakes most of my career and you always see some of the legends in the brake industry here, you get to see new products, learn about research and development that’s going on throughout the world, and find new solutions for your brake problems.”

Thomas Hall
MAXG Technology
Director of Engineering
EVENT-AT-A-GLANCE

BRAKE COLLOQUIUM & EXHIBITION

September 22
SUNDAY

7:00 a.m.-2:00 p.m.
Golf Outing
Ritz Carlton Golf Club

3:00 p.m.-6:00 p.m.
Tutorials
Hardware/Software in the Loop
Vehicular Propulsion Electric Battery System

September 23
MONDAY

7:30 a.m.-8:30 a.m.
Morning Mixer
Foyer
Sponsored by Fibrox

8:30 a.m.-9:40 a.m.
Opening Keynote & Award Presentations
Keynote: Michael Robinet, IHS Markit Automotive

9:40 a.m.-10:20 a.m.
Networking Break
Exhibit Hall

10:20 a.m.-11:40 a.m.
Technical Sessions

11:40 a.m.-1:00 p.m.
Lunch/Exhibitor Spotlight Presentations
Exhibit Hall

1:00 p.m.-3:00 p.m.
Technical Sessions

3:00 p.m.-3:40 p.m.
Networking Break
Exhibit Hall

3:40 p.m.-5:00 p.m.
Technical Sessions

5:00 p.m.-6:00 p.m.
Networking Reception
Exhibit Hall

September 24
TUESDAY

7:30 a.m.-8:15 a.m.
Morning Mixer
Foyer

8:20 a.m.-9:40 a.m.
Technical Sessions

9:40 a.m.-10:20 a.m.
Networking Break
Exhibit Hall

10:20 a.m.-11:40 a.m.
Technical Sessions

11:40 a.m.-1:00 p.m.
Lunch/Exhibitor Spotlight Presentations
Exhibit Hall

1:00 p.m.-3:00 p.m.
Technical Sessions

3:00 p.m.-3:40 p.m.
Networking Break
Exhibit Hall

3:40 p.m.-5:00 p.m.
Technical Sessions

5:30 p.m.-7:00 p.m.
Networking Reception
Valencia Lawn

September 25
WEDNESDAY

7:30 a.m.-8:00 a.m.
Morning Mixer
Foyer

8:00 a.m.-9:40 a.m.
Technical Sessions

9:40 a.m.-10:00 a.m.
Networking Break
Foyer

10:00 a.m.-11:40 a.m.
Technical Sessions

11:40 a.m.-12:40 p.m.
Lunch
Foyer

12:40 p.m.-3:00 p.m.
Technical Sessions

Event Concludes

PROFESSIONAL DEVELOPMENT OPPORTUNITIES AT BRAKE 2019

A separate registration and registration fee are required.

• Introduction to Brake Control Systems: ABS, TCS, and ESC September 26, 2019
• ADAS Application: Automatic Emergency Braking September 26, 2019
• Brake Noise Problem Resolution September 27, 2019

TECHNICAL SESSION
NETWORKING OPPORTUNITY

EXHIBIT HOURS
Monday 9:30 a.m.-6:00 p.m.
Tuesday 9:30 a.m.-4:00 p.m.

REGISTRATION HOURS
Sunday 12:00 p.m.-5:00 p.m.
Monday 7:00 a.m.-4:00 p.m.
Tuesday 7:30 a.m.-4:00 p.m.
Wednesday 7:30 a.m.-10:00 a.m.
MEET THE EXECUTIVE & ADVISORY BOARDS

EXECUTIVE BOARD

Roy Link
Chairman & CEO
Link Engineering Co.

Richard Kaatz
General Manager,
North America Operations
KBAutosys

Chris McCormick
Engineering Director,
ZF

Seong Rhee
SKR Consulting LLC

Daniel Sandberg
President & CEO
Brembo North America

Paul Smith
Senior Manager
FCA US LLC

Gregory Vyletel
V.P.-Global IAM
Engineering-Braking
Federal-Mogul Motorparts

James Webster
Global Technical Manager -
Brake Systems
General Motors
Global R&D

REGISTRATION HOURS
Sunday 12:00 p.m.–5:00 p.m.
Monday 7:00 a.m.–4:00 p.m.
Tuesday 7:30 a.m.– 4:00 p.m.
Wednesday 7:30 a.m.– 10:00 a.m.

EXHIBIT HOURS
Monday 9:30 a.m.–6:00 p.m.
Tuesday 9:30 a.m.–4:00 p.m.
ADVISORY BOARD

Harald Abendroth
Consultant

Yuichiro Akita
Honda R&D Americas Inc.

Jayashree Bijwe
Indian Institute of Technology

Bart Cann
BWI Group

Gilberto Crosa
Consultant

John Fieldhouse
JDF Consulting

Peter Filip
Southern Illinois University Carbondale

Kasem Issaraphithakkul
Compact International (1994) Co. Ltd.

Ho Jang
Korea University

Se-Il Kim
Hyundai Mobis

ShinWan Kim
KB AutoSys

Masaaki Nishiwaki
Kanagawa Institute of Technology

Georg Ostermeyer
TU Braunschweig

Kurt Person
Innovation and Management Services LLC
MONDAY OPENING
KEYNOTE 9:00 AM

“State of the Braking Industry”

Michael Robinet
Executive Director
IHS Markit
Automotive

2019 Brake Colloquium Webcast
Mark your calendar for early August for the 2019 for the 2019 Brake Colloquium webcast. Join this tune-up for the upcoming conference. The Brake Report and a panel of experts will discuss and preview critical topics driving the science of braking that will define and continue the discussion at the Colloquium.

Visit sae.org/brake for webcast details and updates later this summer.
TECHNICAL SESSIONS

The 2019 Brake Colloquium continues a tradition of deep technical programming with over eighteen hours of content across the four days of the conference. The full technical program is under development but will feature content critical to the science and technology of braking. Visit sae.org/brake for the most current technical program.

Friction/ Raw Materials
This session will present recent discoveries and innovations in friction materials development. Papers address paradigm shift expected in (close) future due increased number of electric/hybrid/autonomous vehicles and related changes in performance of friction brakes and their interaction with regenerative braking based on different principles. Several papers address the environmentally friendly formulations, as well as valid intrinsic physical property measurement.

Organized by:
Peter Filip
Southern Illinois Univ. at Carbondale
Sydney Luk
Royal Metal Powders
Fernão Persoon
LAPINUS
Eros Sales
ITT Friction Technologies

NVH Technical Presentations
This session focuses on innovations for improving brake NVH (Noise, Vibration and Harshness) performance. Papers and presentations involving new methods, theories, techniques, and application examples are welcome.

Organized by:
Eric Denys
Meneta Advanced Shim Technology A/S
Weiming Liu
Federal-Mogul Motorparts
Brent Lowe General Motors

Testing and Measurement Technical Presentations
This session focuses on new laboratory and vehicle testing methods and systems for new braking technologies. Topics include: electrification of braking systems, powertrain electrification and its interaction with the foundation brakes, physical validation of simulation models, and hardware-in-the-loop testing. This session is aimed at providing a platform for the industry to showcase, discuss, and charter the path forward on testing activities, measurement methodologies, challenges, and needs.

Organized by:
Cara Learman
General Motors
Adam Link
Link Engineering Company
Ryan Vicary
ITT Friction Technologies

High Performance & Aftermarket Brake Systems for Cars Technical Presentations & Panel Discussion
This session focuses on OEM and aftermarket brake systems for high performance sports cars and sedans. It includes new trends in brake system technology applied to these type of vehicles, how they differentiate from standard brake systems, and the specific development challenges on component and system levels. It also deals with the question of how the focus on performance and safety can be combined with comfort and life time requirements.

Organized by:
Michael Schorn Link Europe
Axel Stenkamp
TMD Friction GmbH
CAE Technical Presentations
The CAE has been extensively used to reduce the product development time as well as prevent the field issues such as the brake noise and vibration. This session presents the latest in the computer-aided engineering technologies in the various areas including but not limited to NVH, CFD, thermal, structural, and wear analysis.

Organized by:
Heewook Lee
General Motors
Li Lee
Akebono Brake Corp.
K. Mike Lee
Kyung Chang Industrial Co.
Joachim Noack
ZF Group

Advances in Brake Component Design
The session focuses on innovations with foundation brake and apply system components (calipers, rotors, drums, bearings, manual and electric park brakes, and actuation). It addresses integration at all levels (pad to caliper, caliper to corner, corner and actuation to vehicle). Examples include but are not limited to: component design, performance enhancements, system sizing/configuration, drag reduction, pedal feel, mass reduction, and thermal management by new designs/innovative materials.

Organized by:
Saikiran Divakaruni
ZF Friedrichshafen AG
Chris McCormick
ZF Group
Jeff Pontius
Mando America Corp.
Mark Riefe
General Motors

Braking for Electric and Hybrid Vehicles Technical Presentations
Evolving demands on brake systems driven by hybrid and electric vehicle architectures are providing opportunity for new component and brake system configurations and a demand for greater integration of the brake control system with overall vehicle controls. This session offers new concepts and ideas for electrically powered and controlled brakes, improvements in control strategies and system safety considerations.

Organized by:
Jaeseung Cheon
MOBIS
James Fash
Zoox Inc.
Yasushi Suganuma
Link Engineering Company

Fundamental Mechanisms of Friction and Vibration Technical Presentations
The session focusses on the fundamentals of the interaction on the sliding surface and associated friction induced vibrations. From nanoscale interactions of the contacts on the sliding interface to macroscopic methodology to diminish friction induced vibrations, this session comprises new findings and discussion toward a step forward to full understanding of the friction and brake induced vibration.

Organized by:
Harold Abendroth
Ho Jang
Korea Univ.

Wheel Bearings and Seals Technical Presentations & Panel Discussion
This session will focus on innovations in wheel bearings and their integration to the vehicle. Individuals will address topics such as mass optimization, drag reduction, enterprise cost, warranty reduction, Brinelling, sealing, corner splash protection, lateral stiffness, lubrication, validation, coatings and new technology. Additionally it is a great place to meet people in the wheel bearing industry and have an open dialog about the multiple challenges facing our industry.

Organized by:
Kelly Grubaugh
ILJIN USA Corp.
Richard Haehn
ILJIN USA Corp.

Brake Emissions Technical Presentations
Braking emissions are becoming more and more the focus of the public. In addition to fundamental questions of the quantitative detection of brake dust and its distribution in the environment, health questions are also essential. This session addresses measurement technology, theory and simulation for brake emission and ways to minimize the environmental impact.

Organized by:
Carlos Agudelo
Link Engineering Company
Georg Ostermeyer
TU Braunschweig
Matthew Robere
General Motors
**Voice of the OEM Panel Discussion**
A distinguished panel of brake engineering leaders from the OEM community will discuss brake related topics. Come prepared to ask your questions and make comments in what is meant to be a direct and open discussion between the OEMs and the brake industry.

*Organized by:*  
David Antanaitis General Motors  
Thomas Hall  
Richard Kaatz KB Autosys  
Chris McCormick ZF Group

**SAE Standards Update Technical Presentations with Panel Discussion**
Braking emissions are becoming more and more the focus of the public. In addition to fundamental questions of the quantitative detection of brake dust and its distribution in the environment, health questions are also essential. This session addresses measurement technology, theory and simulation for brake emission and ways to minimize the environmental impact.

*Organized by:*  
Timothy Duncan Link Engineering

**Commercial Vehicles Technical Presentations**
This session will feature international experts addressing critical braking issues related to the performance and safety of commercial vehicles. Topics include transitioning from drums to air brakes, roll stability, global regulatory and standards review, and braking strategies for hill descent.

*Organized by:*  
John David Fieldhouse JDF Consulting  
Roy Link Link Engineering Company  
Gregory Vyletel Federal-Mogul Motorparts

**Additional Testing/Validation Considerations with Re-gen Braking Panel Discussion**
This panel will have a broad discussion surrounding the electrification, system differential with re-gen braking, and help the brake system/components suppliers to align testing spec with market needs, and identify the technical area to focus on. Each panelist will share their vision with the industry, and provide with insight of some technical challenges to focus on.

*Organized by:*  
HT Chang  
Brake Parts Inc.  
Saikiran Divakaruni  
ZF Friedrichshafen AG
Brake System Control Products and Methodologies
This new session is seeking abstracts on brake system control methodologies, brake controls products, model based software development, and strategic presentations with trends for EV and ADAS.

Organized by:
David Antanaitis
General Motors
Joachim Noack
ZF Group

Brake Emissions – Vehicle Design Perspectives, Regulatory Potential and Health Effects Panel Discussion
The news cycles, with almost weekly headlines regarding emissions and particulate matter, and recent studies from around the world have brought brake emissions into the spotlight. This panel aims at addressing three key areas: (a) perspectives of the OEMs regarding the impact on vehicle system design, specifications, and potential compliance to PM limits; (b) perspectives from government entities with resources to monitor or mandate limits for brake emissions, and (c) perspectives from research bodies with the ability to understand the toxicology, dosimetry, and effects of particulate matter and constituents on human health.

Organized by:
Georg Ostermeyer
TU Braunschweig
Matthew Robere
General Motors

SUNDAY TUTORIALS ARE BACK
New in 2018, the Sunday Brake tutorial sessions return to the 2019 agenda. Immerse yourself in emerging topics impacting braking systems in these deep dive sessions. Presented by subject matter experts, you’ll leave these sessions with practical applications you can put to work in your office. Preliminary topics for the 2019 tutorial sessions, include:

• Hardware In-the-Loop/Software In-the-Loop
• Effects of Vehicular Propulsion Electric Battery Systems on Braking
GENERAL INFORMATION

Registration
Pricing reflects discounted rates. The rate will increase after September 6, 2019.

- SAE Members: $875
- Non-members: $1275
- Technical program participant: $350
- SAE Student Members: Free
- Nonmember Student: $125
- Exhibitor Booth Personnel: Free
- Press: Free
- Expo Only: $675
- Young Professionals*: $275

*First time Brake attendees, under 35 years of age and less than 10 years of work experience.

Hotel Information – Room block expires August 29, 2019
When it’s time to put the brakes on your learning at the Colloquium, the JW Marriott Grande Lakes offers the ultimate opportunity for relaxing in a lush setting of over 500 acres yet still easily accessible to the multitude of Orlando attractions.

As a Brake attendee, you’ll also enjoy the Ritz-Carlton Spa Orlando and the par-72 golf course designed by Greg Norman that will play host to the annual Brake Colloquium Golf Outing.

You can get business done on the show floor and nearby with many industry manufacturers and suppliers only a short drive from Orlando. The city of Orlando is a major industrial and hi-tech center nationally recognized as a cluster of innovation in digital media, agricultural technology, aviation, aerospace, and software design. More than 150 international companies, representing 20 countries, have facilities in Metro Orlando. Orlando is home to the University of Central Florida.

JW Marriott Orlando Grande Lakes
4040 Central Florida Parkway
Orlando, FL

- Room Rate: $179
- Hotel Parking: $29/self and $37/valet
For additional travel information visit sae.org/attend/brake/attend/hotel-travel
Golf Outing

A popular networking opportunity for Brake Colloquium attendees returns again in 2019. The Golf Brake Outing provides the perfect starting point to your week at Brake. Hit the links on the Greg Norman designed course and create new connections in a fun and relaxed environment.

Reserve your foursome today at sae.org/attend/brake/attend/special-events.

Golf Sponsors to date:

Golf sponsorship includes a complimentary foursome. To reserve your sponsorship, contact Megan McCoy at megan.mccoy@sae.org.

Post Event Professional Development Seminars

To continue your learning after Brake by adding an SAE Professional Development seminar to your agenda. Visit sae.org/attend/brake/program/professional-development for more details and class descriptions.

Introduction to Brake Control Systems: ABS, TCS, and ESC
September 26

ADAS Application: Automatic Emergency Braking
September 26

Brake Noise Problem Resolution
September 27
EXHIBIT AND SPONSORSHIP OPPORTUNITIES
AT THE BRAKE COLLOQUIUM

WHO ATTENDS

800 qualified braking professionals from OEM, supplier and research communities from around the world.

90% of attendees are influencers, decision makers, and/or purchasers (*based off 2017 registration)

86% of attendees use face-to-face time at conferences to become aware of new products, evaluate vendors for future purchases, and/or narrow their choices to preferred vendors (*data obtained from CEIR)

Attendee Focus Areas
Brake friction and materials, Noise, vibration and harshness, Testing, Quality Control, Technology, rotors, and calipers, Brake actuation, Electric and hybrid braking, Research and development, Engineering, Aftermarket, Sales and marketing

High-Impact Ways to Engage the Brake Audience
Sponsorships
Increase your organization’s brand recognition and distinguish yourself as a leading industry expert as a leading sponsor.

Sponsorship Benefits
• Interact with individuals and other supplier companies to generate new business opportunities
• Create opportunities for expanded business
• Reconnect with current customers
• Establish contacts and potential customers
• Participate in the event as an attendee
• Company recognition in the Event Guide and Mobile app
• Company recognition on the Commercial Vehicle sponsor webpage with hyperlink to your web page
• Recognition on sponsor appreciation signage throughout event
Exhibit Space

Showcase your organization’s latest products or innovations as an exhibitor at Brake. Put your brand in front of key decision makers at the only industry event focused on brakes.

Exhibit Features

• Exhibit Space includes – 10’ x 10’ booth space
• Two (4) full conference registrations (admittance to technical sessions, exhibition, lunches, networking breaks)
• Company listing and profile in the event guide and/or mobile app and online exhibitor directory

Spotlight Your Company

Brake will provide its exhibitors a platform to present a commercial-based presentation - completely different from those held during the symposium. These TED like-Talks will be held during the breaks in the exhibit hall.

Exhibitor List (as of April 25, 2019)

Airoko Inc
American GCI Resitop
American Metal Fibers Inc
Applus Ildiada USA
Asbury Carbons
Atotech Usa Inc
Bruker
BSS TEC International Corp
Cardolite Corp
Climatic Testing Systems Inc
COMECA Grinding Machines & Presses
Dai Automotive Products SpA
Daiichi Kageso Kagaku Kogyo Co Ltd
Daishin Kako Company Ltd
Entech Inc
Erlmann
Excalibur Minerals Inc
Exploiter Molybdenum Co Ltd
Greening Inc
HEF USA
Hexion Inc.
Hi-Pad Brake Technology
Hori Instruments Inc
ILJIN USA Corporation
IMERYS
Industrial Measurement Systems Inc
International Brake Industries Inc
Itapochim Spa
ITT Fine Blanking
Kamax
Link Engineering Company
Loedige Process Technology
MaGyc Srl
Meneta Group
Midwest Elastomers
Morgan Advanced Materials
Morimura Brothers
Niagara Brake International
Otsuka Chemical Co Ltd
Palmer International Inc
Polytec Inc
Pometon SPA
Preferred Automotive Components
Procotex Corporation SA
Rimsa Metal Technology SA
Rockwool BV
Sadeca Automotive SLU
Shamokin Carbons
Showa Denko Carbon Inc
Sterling Fibers
Superior Graphite
Tangshan Kimwan Carbon Technology & Development
Taprath Elastomers LLP
Trelleborg Sealing Solutions
UTIL Group
WanDa Machines
Winhere Brake Parts Inc
Wolverine Advanced Materials
Zeon Chemicals LP

Contact:
Megan McCoy, Event Sales
724-772-4037
megan.mccoy@sae.org

Customized options are always available to help you achieve your goals and reach your targeted audience.
SPONSORS
A special thank you to the following companies: (as of 5/9/19)

GOLD

ITAPROCHIM Materials solutions

KBautosys

MENETA Group

SILVER

UTIL Group

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