27th Annual Meeting and Conference on Tire Science and Technology

Day 1 – Monday, September 15

7:30 AM		**Registration**	
8:00 AM		**Conference Opening**	Hans Dorfi President of The Tire Society
8:10 AM		**Technical Program Opening**	Jim McIntyre, Conference Chair
8:15 AM		**Session 1: Wear / Friction**	John Luchini, Session Chair
8:15 AM	1.1	Influence of Pattern Void on Hydroplaning and Related Target Conflicts	Bernhard Röger, Burkhard Wies, Reinhard Mundl
8:40 AM	1.2	The Unified Approach to the Optimization of the Tread Pattern Shape and the Cross-Sectional Contour of Tires	Naoya Ageishi, Yoshihiro Tanaka
9:05 AM	1.3	Tire Dry-Traction and Rolling Resistance Dependency	Mohamed Kamel Salaani, Larry Evans, John Harris, James D. MacIsaac Jr.
9:30 AM		**Break**	
9:45 AM		**Session 2: Vehicle Dynamics**	Terrence Wei, Session Chair
9:45 AM	2.1	Winter Tires: Operating Conditions, Tire Characteristics and Vehicle Driving Behavior	Burkhard Wies, Helge Dörrie, Carsten Schröder
10:10 AM	2.2	Influence of Friction Heat on Tire Traction on Ice and Snow	Martin Giessler, Frank Gauterin, Burkhard Wies, Klaus Wiese
10:35 AM	2.3	Effect of Tire Wear on Tire Force and Moment Characteristics	Robert J. Pascarella, Donald F. Tandy, Jr., Joseph W. Neal, John M. Baldwin, Jackie D. Rehkopf
11:00 AM		**Break**	
11:10 AM		**Plenary Lecture:** Membrane Theory - Tire Design 101 and a Valuable Research Tool	Tim Rhyne - Michelin
12:00 PM		**Lunch – Box Lunch Provided**	
1:00 PM		**Session 3: Student Papers**	Barry Yavari / Osama Hamzeh, Session Chairs
1:00 PM	3.1	Dynamics of a Siped Tire Tread Block on Rough Surfaces	Stefan Ripka, Gunnar Gäbel, Matthias Wangenheim
1:25 PM	3.2	Experimental Determination of the Effect of the Surface Curvature on Rolling Resistance Measurements	Thomas Freudenmann, Hans-Joachim Unrau, Mohanad El-Haji
1:50 PM	3.3	Energy Based Methodology for Material Characterization	Ryan Kupchella, Jacob Kidney, Wade Hutchison
2:15 PM	3.4	A Three-Dimensional Hyper-Viscoelastic Constitutive Model for the Dynamic Response of Rubber	Min Liu, Michelle S. Hoo Fatt
2:40 PM		**Break**	

Day 1 (Continued)

3:00 PM		**Session 4: Noise, Vibration and Harshness**	Lin Kung, Session Chair
3:00 PM	4.1	Ride-Enhancing Belt for a Non-Pneumatic Bicycle Tire	Kundan Kumar, Gerhard Scharr
3:25 PM	4.2	Cavity Noise Sensitivity Analysis of Tire Contour Design Factors and Application of Contour Optimization Methodology	H. M. Park, S. R. Kim, S. W. Hwang, K. H. Noh, C. T. Cho
3:50 PM	4.3	Reduction of Groove Noise of a Tire Using Slot Resonators	Shu Fujiwara, Keita Yumii, Takanari Saguchi, Kenshiro Kato
4:15 PM	4.4	Explicit Transient Finite Element Modeling of High Speed Uniformity	Mohammed Sobhanie, Desheng Li, Greg Shteinhauz, Greg Johanning
4:40 PM		**End of Monday's Technical Sessions**	
5:00 PM		**Social Time / Gallery Tours** – Akron Art Museum	
5:30 PM		**Cash Bar / Hors d'oeuvres**	
6:45 PM		**Dinner:** NASA's New Rockets: An Overview of the Constellation Program and the Ares Launch Vehicles	Scott R. Graham NASA Glenn Research Center

Day 2 – Tuesday, September 16

8:15 AM		**Opening/Announcements**	
8:20 AM		**State of the Society**	Hans Dorfi President of the society
8:45 AM		**Break**	
9:00 AM		**Keynote Address**	Mark Emkes - Bridgestone Firestone North American Tire
10:00 AM		**Break**	
10:20 AM		**Session 5: Component-Level Modeling**	Marion Pottinger, Session Chair
10:20 AM	5.1	Structure and Parameterization of MF-Swift, a Magic Formula-based Rigid Ring Tire Model	Antoine Schmeitz, Willem Versteden
10:45 AM	5.2	CDTireMC: A New Physical Tire Model for Spindle Load Prediction of Motorcycle Tires Including Very Large Inclination Angles on Rough Roads	Axel Gallrein, Manfred Baecker
11:10 AM	5.3	Comfort and Durability Tire Model Validation	Xiaobo Yang, Sudhakar Medepalli
11:35 AM	5.4	The Impact of Tire Measurement Data on Tire Modeling and Vehicle Dynamics Analysis	Thomas Hüsemann, Mark Wöhrmann
12:00 PM		**Lunch - Provided (in Tent)**	
1:00 PM		**Session 6: Structural Performance**	Jan Terziyski, Session Chair
1:00 PM	6.1	Laboratory Measurement of Tire Flatspot	Neel K. Mani, Michael A. Berzins, John L. Turner
1:25 PM	6.2	Fracture Mechanics of Elastomeric Structures: Experiments, Modeling and Tire Simulation	Michael Kaliske, Bastian Näser
1:50 PM	6.3	Thermomechanics of 3D Crack Propagation in Amorphous Polymeric Solids; Application to Predicting Belt Separation Failure in Automotive Tires	Kenneth N. Morman
2:15 PM		**Break**	
2:25 PM		**Session 7: Durability**	Terry Ruip, Session Chair
2:25 PM	7.1	Enhancement of Tire Durability by Considering Physics Interaction Between Thermo-Mechanical and Air Flow Field	Kenshiro Kato, Toshiya Miyazono, Masashi Yamaguchi, Makoto Tsuruta
2:50 PM	7.2	3D Digital Imaging Correlation: Applications to Tire Testing	Russ A. Moser, H. Jim Sube, John L. Turner, Paul Zakelj
3:15 PM		**Closing remarks**	
3:25 PM		**End of Conference**	