

**Mathematics Distinguished Lecture Series**  
**Department of Mathematics**  
**University of Kansas**

**Progress and Challenges in the  
Theory of Hyperbolic Conservation Laws**

**Constantine Dafermos**  
**Member of the National Academy of Sciences**  
**Alumni-Alumnae University Professor**  
**Brown University**

**Thursday, April 12, 2018**

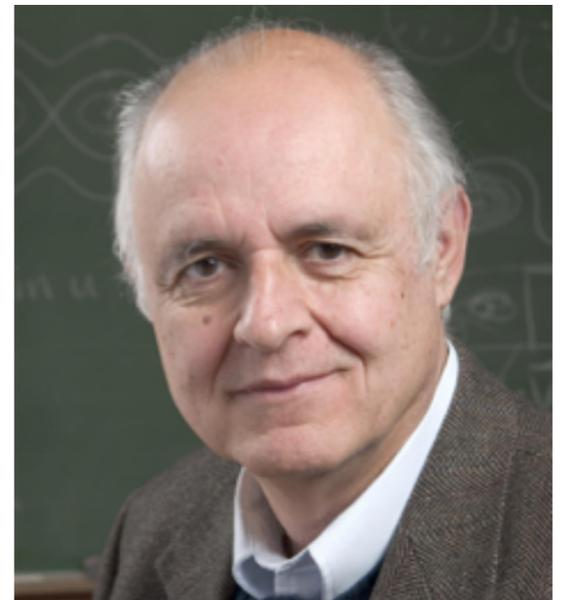
**4:00 pm**

**120 Snow Hall**

**(Refreshments at 3:30 pm, 406 Snow)**

The lecture will introduce the class of systems of partial differential equations termed “hyperbolic conservation laws”, with close ties to classical physics and technology. It will sketch the state-of-the-art in the area, attained through concerted efforts over the past years, and will emphasize the major challenges facing the future development of the mathematical theory.

Professor Dafermos received a Diploma in Civil Engineering from the National Technical University of Athens (1964) and a Ph.D. in Mechanics from the Johns Hopkins University (1967). He has served as Assistant Professor at Cornell University (1968-1971), and as Associate Professor (1971-1975) and Professor (1975- present) in the Division of Applied Mathematics at Brown University. In addition, Professor Dafermos has served as Director of the Lefschetz Center of Dynamical Systems (1988-1993, 2006-2007), as Chairman of the Society for Natural Philosophy (1977-1978) and as Secretary of the International Society for the Interaction of Mathematics and Mechanics. Since 1984, he has been the Alumni-Alumnae University Professor at Brown.



Professor Dafermos works at the interface between continuum mechanics and the theory of partial differential equations. In recent years, his research has focused on nonlinear hyperbolic systems of conservation laws, whose solutions spontaneously develop singularities that propagate as shock waves. He is interested in the interplay between thermodynamics and analysis, in the theory of these systems, and has been striving to elucidate the fundamental role of entropy as a stabilizing agent.

In addition to several honorary degrees, he has received the SIAM W.T. and Idalia Reid Prize (2000), the Cataldo e Angiola Agostinelli Prize of the Accademia Nazionale dei Lincei (2011), the Galileo Medal of the City of Padua (2012), the Prize of the International Society for the Interaction of Mechanics and Mathematics (2014), and the AMS Norbert Wiener Prize (2016). He was elected a Fellow of SIAM (2009), a Fellow of the AMS (2013), and to the National Academy of Sciences (2016). <https://www.brown.edu/academics/applied-mathematics/constantine-dafermos>