

## 2010 Acta Materialia Materials and Society Award



Marc André Meyers was raised in João Monlevade, Brazil (where he arrived at the age of 12 days) and Luxembourg. In Monlevade, he lived adjacent to the first integrated steel-making plant in Brazil, built by Luxembourgish and Brazilian engineers in a deep valley adjoining one of the largest iron ore reserves on the globe. He was exposed to metallurgy from an early age and visited the steel plant many times with his father, Henri Meyers, rolling mills engineer and later manager and director. He entered the plant for the first time (unauthorized) at the age of seven with the kids who brought lunch for their fathers, and was severely reprimanded, upon being caught, by his father. The struggles of the heroic workers, dedicating their lives to the production of steel, and sometimes leaving their life in the line of duty, left a deep imprint in his mind.

Both his father and grandfather were metallurgical engineers (Aachen and Louvain, respectively). His grandfather, Jean-Pierre Meyers, worked in steel mills in the Lorraine basin (Belgium, France, and Luxembourg) in the early 20th century. From 1914 to 1918 he directed the construction of modern blast furnaces in Bilbao, Spain, where he and his wife succumbed.

Professor Meyers is a graduate of the Federal University of Minas Gerais (mechanical engineering) and the University of Denver (MS and PhD, materials science and metallurgy). He served in the Brazilian Army and is a Second Lieutenant, Engineering Corps.

Since 1972, Professor Meyers has worked on the dynamic behavior of materials in the three principal areas: dynamic processing, dynamic failure, dynamic and shock response of materials. Through a 38-year effort, he has unified this field by organizing and hosting conferences and symposia, managing research programs, disseminating the knowledge through writings and specialized classes, developing collaborations, and hosting visitors, thereby significantly enhancing its visibility in the materials community. Professor Meyers embarked, beginning in 2000, into two new and exciting research directions: biological materials and ultrafine grained and nanocrystalline metals. He is focusing on the mechanical behavior of these materials and has made discoveries in this field which are receiving considerable recognition in the press.

Professor Meyers started his professional career at the Military Institute of Engineering (Brazil) where he helped

to establish one of the first laboratories for shock and explosive effects in Latin America. He worked at the South Dakota School of Mines and Technology and at the New Mexico Institute of Mining and Technology, where he was the co-founder of the Center for Explosives Technology Research (Associate Director, 1983–1988), and was the co-founder (with L.E. Murr) and co-chair of the EXPLOMET conference series (1980, 1985, 1990, 1995, 2000).

Professor Meyers served as Advisor to the Director (Dr. G. Mayer), Materials Science Division, US Army Research Office (1985–1987). In that capacity, he was actively engaged in stimulating and directing research in the dynamic behavior of materials. At the University of California, he has collaborated extensively with Lawrence Livermore National Laboratory scientists on laser, explosive, and gas gun shock effects. He has established a global network of collaborations which includes visits and joint research with scholars in Argentina, Brazil, China, France, Germany, Japan, Mexico, Russia, Singapore, and Spain. In the period 1992–1995 Dr. Meyers was selected as one of the key liaison scientists in a program of technological exchange in the area of shock-induced chemical reactions and was involved in coordination of research with Soviet scientists. He traveled to the USSR four times, attending conferences and developing joint research programs.

At UC San Diego, Dr. Meyers was one of the four Associate Directors of the Institute for Mechanics and Materials and its Director for 18 months. The IMM summer schools, well received nationally, were one of the most visible activities as Associate Director. As a Director of the IMM, he coordinated over 20 symposia and workshops in a number of critical science and technology areas. These events were very important in

stimulating a closer relationship between Mechanics and Materials.

Dr. Meyers was a subject editor (one of 100 leading Materials Scientists/Engineers) for the Encyclopedia of Materials Science and Technology, Elsevier's global effort for 2001. As a subject editor, he invited and coordinated the contributions of 25 experts in the field of mechanical behavior of materials.

Dr. Meyers was a Visiting Scientist, Japan, as a guest of MITI (Ministry of International Trade and Industry). There he was a researcher in Tsukuba Science City and gave a series of lectures at industrial laboratories, research institutes, and universities on the new technological developments taking place at the Center for Explosives Technology Research.

A Fellow of ASM International, Dr. Meyers is the recipient of the Humboldt Senior Scientist Award from the German Humboldt Foundation, the Structural Materials Division Distinguished Scientist/Engineer and Distinguished Service awards from the Structural Materials Division of TMS, the Lee Hsun Lecture Award from the Institute for Metal Research, China, and the John S. Rinehart Award of the DYMAT Association, Europe.

Professor Meyers and his students and co-workers are the authors of over 300 research papers and three books (two of them translated into Chinese), and co-editors of seven books (one of which was translated into Russian).

Professor Meyers has three brothers, two of whom are engineers, a son and a daughter, and two grandchildren. He enjoys writing fiction and is the author of 'Mayan Mars' and other works in progress.

The presentation of the Acta Materialia, Inc. Materials & Society Award will be made to Prof. Meyers during the ABM/TMS Meeting in Rio de Janeiro, Brazil, July 23–26, 2010.