

Meet a Member: Marc Meyers: Building Bridges to Brazil

By Lynne Robinson

Editor's Note: This is excerpted from an article that first appeared on MaterialsTechnology@TMS at <http://materialstechnology.tms.org/mas/article.aspx?articleID=2965>.

The breadth of materials science unfolded at Marc Meyers' doorstep as a boy growing up in the industrial town of Monlevade, Brazil. His childhood home stood in the shadow of the first integrated steel mill built in Latin America, where his father, Henri, worked as rolling mills engineer and eventually as the plant director. Materials secrets from nature were also revealed during explorations of the neighboring jungle, most memorably in the form of a toucan skeleton. "I lifted its beak and recognized, right then, that it was extraordinarily light and stiff," recalled Meyers. "But, it took me half a lifetime to return to it."

Meyers' earliest forays into understanding the materials world around him sometimes gave rise to unintended consequences. Sneaking into his father's steelworks at the age of seven resulted in a "severe reprimand." And, an attempt to detonate an explosives cap that he "found" at the age of 13 nearly blinded him. "I always liked to explore new areas, understand new phenomena," he said.

It was in the relative safety of university study that Meyers finally set on

a path that would define his research for more than 37 years—the dynamic behavior of materials, encompassing dynamic processing, deformation, and fracture. Through the years, he has also explored extractive metallurgy, processing, and physical metallurgy. Still inspired by that discarded toucan beak he found in the jungle, Meyers has most recently expanded his research to biological materials, as well as ultrafine grained and nanocrystalline metals.

Weaving these divergent interests together has been a desire to "build bridges between researchers and society globally." For Meyers, currently a professor of Materials Science, University of California, San Diego, this has meant spearheading the implementation of numerous forums and joint research initiatives that have enabled scientists from different disciplines and parts of the world to share knowledge and progress together. It is these efforts, as well as his many scientific accomplishments, that earned Meyers the 2010 Acta Materialia Materials and Society Award. This prestigious honor recognizes outstanding contributions to understanding the relations between materials technology and society, and/or contributions to materials technology that have had a major impact on society.

Meyers' latest efforts to enrich science through international cooperation have focused on the development of the inaugural International Materials Congress, to be held jointly by TMS and the Brazilian Metallurgical, Materials and Mining Association (ABM), July 26–30, 2010, in Rio de Janeiro, Brazil, in conjunction with the 2010 ABM Annual Congress. Appointed as the international coordinator for the event, Meyers said that response has been extremely positive. "The possibilities for interaction are immense," he said. "We have been able to assemble an outstanding group of both TMS and ABM members for the technical symposia and they are donating their time in a most generous way."

On a number of levels, Meyers' connection with the TMS-ABM Congress is emotional, as well as professional. His father was one of ABM's founding members in 1945. And, he has chosen to receive his Acta Materialia Materials and Society Award at the event. He also plans to use the award honorarium to help establish a scholarship for underprivileged materials science students from his home town of Monlevade.

"I chose to receive the Acta Award at this congress because I am a member of the first wave of Brazilians who came to the United States to do doctoral studies in materials science," he said. "We were just a handful, preceded by the brilliant pioneers Luis Correia da Silva and Walther Arno Mannheimer. I would like to share this recognition with my generation, who left the provincial universities in which they studied to reach for the world."

Each month, *JOM* profiles a TMS member and his or her activities both in and out of the realm of materials science and engineering. To suggest a candidate for this feature, contact Maureen Byko, *JOM* editor, at mbyko@tms.org.



Figure 1: Meyers and his brother, Pedro, conceived and developed this monument, "Pioneers in Steelmaking," which now stands at the entrance to the Barbacoon steel mill in their home town of Monlevade, Brazil. The sculpture shows an iron worker working a Krupp rolling mill. The two brothers spent many hours observing this operation under the careful watch of their father.