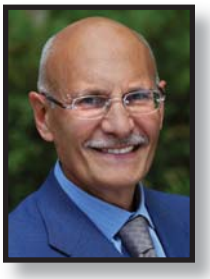
Diran Apelian Elected to National Academy of Engineering



In February, TMS Past President Diran Apelian was elected to the National Academy of Engineering (NAE). He is one of the 65 new NAE members and nine foreign associates to receive this prestigious distinction.

The NAE honors individuals who have made outstanding contributions to engineering research, practice, or education and to the pioneering of new and developing fields of technology, making major advancements in traditional fields of engineering, or developing/implementing innovative approaches to engineering education. Election to the NAE is among the highest professional distinctions accorded to an engineer.

Apelian, Howmet Professor of Mechanical Engineering at Worcester Polytechnic Institute (WPI) and founder and director of the university's Metal Processing Institute, is an internationally recognized pioneer in metals research. His NAE citation reads, "For contributions to solidification processing and for outstanding leadership in engineering education and university-industry collaboration."

"Induction to the National Academy is humbling and the recognition from one's peers is precious," Apelian said. "However, this recognition must be shared with many others: my parents who taught me from early on the joys of learning and living; my teachers at Drexel University and MIT who challenged me and nurtured the joy of learning; past and present students; and colleagues at WPI and all over the globe."

Throughout his career, Apelian has received numerous accolades and awards. Most recently, he was elected a foreign member of the National Academy of Sciences of the Republic of Armenia. Apelian is a Fellow of TMS, APMI International, and ASM International and is an honorary member of the French Materials Engineering Society. He received the Brimacombe Prize and Bruce Chalmers Award for outstanding contributions to the science and technology of solidification science in 2006 and the Acta Materialia Inc. J. Herbert Hollomon Award in 2007.

Apelian has authored over 500 publications, co-edited 11 books, and serves on the editorial board of the *International Journal of Cast Metals Research* and the *Encyclopedia of Materials Science and Engineering*. He is currently working on a major textbook titled *The Science and Technology of Metal Casting*.

The NAE is a nonprofit institution that serves as an advisor to the federal government and conducts independent studies to examine important topics in engineering and technology.

AL ROMIG NAMED DEPUTY LAB DIRECTOR AT SANDIA NATIONAL LABORATORIES

Sandia National Laboratories in Albuquerque, New Mexico, named TMS Fellow Al Romig deputy lab director for Laboratory Transformation and Operations. He assumed the new position February 16.

As a deputy lab director, Romig serves as the lab's chief operating officer and provides direction for major internal and external initiatives. Prior to his change in executive leadership, Romig served as deputy lab director for Integrated Technologies and Systems.

Sandia's top management structure includes three deputy lab directors each of whom oversees one of the laboratory's major mission or operational organizations.

Diana Lados Receives Orr Early Career Award

Diana Lados was awarded the Orr Early Career Award in January from the Materials Division of the American Society of Mechanical Engineers. She became a TMS member in 2000.

The award recognizes research excellence in the experimental, computational, and theoretical fatigue, fracture, and creep areas of materials science. As part of the award, Lados also received the Orr Best Paper Award for her paper, "Fatigue Crack Growth in Metallic Materials: Mechanisms and Design Considerations."

Lados is an assistant professor of mechanical engineering at Worcester Polytechnic Institute (WPI) in Massachusetts and director of the university's Integrative Materials Design Center. After completing her Ph.D. in materials science and engineering at WPI and holding postdoctoral and research scientist positions at the university's Metal Processing Institute (MPI), she joined the university in 2006 as a research professor at MPI.

Last year, Lados established iMdc, an industry-government-university research and educational alliance dedicated to advancing the state of the art and practice in sustainable materials-process-component design and manufacturing for high-performance, reliability, and recyclability. The center has 17 corporate members and four supporting companies.

Lados has published more than 40 journal articles and made more than 80 conference and industrial presentations. She has received numerous awards including the Aluminum Division Scholarship Award from the American Foundry Society and the ASM Worcester Chapter Chester M. Inman Award.

Meet a Member: Hani Henein, Breathing the Beauty into Materials

By Francine Garrone

When Hani Henein was an undergraduate student at McGill University in Montreal, Quebec, Canada, he loved to spend time in the laboratory experimenting with molten metal. The hours he spent melting aluminum were not only for research, but as a way of expressing his aesthetic nature: For his own enjoyment, he would splash liquid aluminum against steel plates to make strange forms. Henein said his eye for beautiful things not only attracted him to the field of materials science, but to the art of hot glass fabrication.

Henein, a professor at the University of Alberta and director of the university's Advanced Materials and Processing Laboratory, has seen during his travels across the globe how different artisans blow glass. In June 2006, he became intrigued by the artistry of blown glass pieces he found in and around the town of Biot in Southern France. "I went from one studio to another fascinated by what I saw," he said.

In 2007, Henein decided it was time to once again express his creative nature using metals and materials, but was unsure exactly how to do it. "I didn't have a hankering to do pottery," he said. "It just wasn't quite where I wanted to spend my time." Acting on advice from a friend, he decided to take a summer course that taught hot glass blowing.

Henein joined the class and began a hobby that has led him to better understand how materials are used by professionals other than engineers and materials scientists. "It puts you in contact with people in other professions—such as artists—that use materials," he said. "You can see how they view a material in sharp contrast to how we view the same material." Henein said glass blowers bring materials science back to its technical roots while today's scientists look into the future. "They can look at a piece and tell you what temperature it is and when it's time to reheat either the whole piece or to put more heat on a certain part of the piece," he said. "They try to interact with glass in a certain way so that they can manipulate it and determine what the glass piece needs to do. They have learned from empirical experience."

Although he considers himself a novice at hot glass fabrication, Henein has taken the complex form of art and produced many beautiful pieces. While taking the course his first year, Henein fabricated a variety of paperweights, small bowls, and glasses. "It took me a lot of time to learn how to blow a hole in molten glass," he said. "You take a blob of molten glass on the end of a blow pipe and then try to propagate the right pressure of air as it moves to the end of the pipe. You have to have the right pressure and temperature to get the bubble to form inside the molten glass."

This past summer, Henein fashioned larger and more elaborate pieces. The varieties of colorful vases and bowls stand as high as a foot tall and have been given to many of his friends. "My friends have been so generous," he laughed. "I see the pieces when I go to visit them."

Henein contends that one does not need to be artistically gifted at hot glass fabrication to create beautiful pieces. "It has its own beauty produced by the way it interacts with light," he said. He also admits that falling in love with a piece before it is complete is a bad idea. "Never fall in love with your piece until it's finished," he said. "Things go wrong! If you fall in love with the piece and something happens you will feel crushed. I had it happen to me. The one that I thought was most beautiful fell off the stick and crashed into pieces."

Figure 1. One of Hani Henein's blown glass works.

Figure 2. Henein fabricated this vase during a summer glass blowing class in 2008.

Each month, *JOM* features a TMS member and his or her activities outside of the realm of materials science and engineering. To suggest a candidate for this feature, contact Francine Garrone, *JOM* news editor, at *fgarrone@tms.org*.