



Abds-Sami Malik

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Current Position:

Technology Manager, Diamond Technologies at Sandvik Hyperion

Background:

- 2011—present, Technology Manager at Sandvik Hyperion
- 2008—2011, Program Manager at Diamond Innovations
- 2003—2008, Senior Development Engineer at General Electric Co.
- 2000—2003, Member of Technical Staff at Lucent Technologies/Bell Laboratories
- 1999—2000, Post Doc at Princeton University, Dept. of Chemical Engineering
- 1998—2000, Post Doc at University of St. Andrews, School of Chemistry in Scotland, UK
- 1992—1998 Graduate Research/Teaching Assistant, Cornell University
- 1989 NSF-REU at University of Chicago
- 1988 NSF-REU at Carnegie-Mellon University

Honors:

- 6 Sigma Greenbelt Qualification from General Electric Co.
- Global Leadership recognition from Sandvik AB
- Bell-Laboratories Post-doctoral Fellowship (1999-2000)
- Dean's Scholar in College of Natural Sciences at Univ. of Texas, Austin (1986-1991)
- National Merit Scholar (1986)
- Westinghouse Science Talent Search Honor Recipient (1986)

Activities:

- Member of Review Committee for Intertech Conference (2014-2016)
- Member of the American Chemical Society
- Inventor on 8 granted patents and 6 pending patents; numerous publications in peer-reviewed journals.

Interests:

- Since 2003, I have been working in high pressure, solid state chemistry. My educational background is in solid state chemistry and physics. The company where I am employed pioneered the high pressure synthesis of diamond and cubic boron nitride. I have sought to use high pressure (up to 8 GPa) and high temperature (up to 2000 °C) as a synthesis and sintering tool to investigate cubic boron nitride containing ceramic composites, thermoelectric materials, and the behavior of glasses at high pressure. Glass under high pressure was the subject of an investigation that was carried out at the Advanced Photon Source at Argonne, in a collaboration with Arizona State University that was funded by my company. These results ultimately led to the development of a continuous measurement technique for high pressures in the range of 3-8 GPa. This particular technique has proved very useful and we have published these and other results in the peer reviewed literature. Without the resources available at the APS, we would not have been able to obtain such high quality data.

Goals:

- The Advanced Photon Source at Argonne is a national treasure and valuable resource for the advancement of science and technology. As a researcher in industry, I particularly value the availability of this resource for our technology development projects. But industry needs and academic needs are not the same. Nor do I feel that the needs of these two user groups are conflicting. Rather, fostering good communications about industry requirements, particularly as relating to intellectual property rights, is key. A balance between basic, fundamental science and technical/process know-how can be struck. If I am privileged to serve on the committee, I would draw on my industry experience to help strike this balance with industry and academic users.
- As a Technology Manager in my company, I have responsibility for our Analysis Laboratory and Machine Shop, which are both internal user facilities. For several years, I have managed these facilities as service organizations, with the goal of serving the customer (the users of the facilities) in a timely manner. However, balancing customer demands with the capacity constraints and other problems that often arise has been a management challenge which can only be addressed by good and frequent communication. One of the goals of the APSUO Steering Committee is to assure good communication between the APS user community and the APS management. I believe my unique experience would be useful in advancing this function of the APSUO Steering Committee.