

## Obituary

# Bernie Penetrante



As the ACS symposium on “Plasma Technology and Catalysis” was being organized, this research community received the tragic news that a pioneer of the field, Bernie Penetrante, died following a massive heart attack. He was 43 years old. The editors and contributors to this special issue of *Catalysis Today*, containing papers presented at “Plasma Technology and Catalysis” ACS symposium, would like to dedicate this volume to his memory.

At the time of his death, Penetrante was the Leader of the High Explosives and Organics Group at Lawrence Livermore National Laboratory (LLNL) in Livermore, CA. He joined LLNL in 1988 as a postdoc working in V Division. Prior to that he was a research assistant professor in the Electrical Engineering Department at Polytechnic University in New York where he investigated gas discharge mechanisms (e.g., in high power switches), applying numerical simulations to the description of electron and chemical kinetics. Penetrante earned his Ph.D. in physics from the University of Pittsburgh in 1983 and his bachelor's in physics from State University of New York at Buffalo in 1980.

During his scientific career, again and again Penetrante demonstrated his excellence in discovering the essential mechanisms governing complex systems, by expertly combining numerical simulation and experimental work. His many outstanding presentations of the results and conclusions of his investigations earned him the recognition and respect of the scientific and engineering community.

His colleagues at LLNL described Penetrante as a tireless worker, and noted that he performed seminal work in understanding and improving the performance of high-intensity optics of the National Ignition Facility.

The plasma catalysis community knew Penetrante as a true innovator who made pioneering contributions to the development of a plasma-enhanced catalysis technology for the remediation of NO<sub>x</sub> emissions from vehicle exhaust, the subject of a number of papers in this special issue. Penetrante's seminal work in this area was documented in numerous research publications and US patents.

In his too-short research career, Penetrante wrote three books, was a co-recipient of nine patents (an additional five are pending), and wrote more than 55 book chapters, journal papers and conference publications.

As much for his research accomplishments, Penetrante was admired by the plasma catalysis research community for his open, honest, and humble personality. Many of us considered him a personal friend.

Penetrante is survived by his wife, Shirley, one brother, his parents and nieces and nephews.

Stephan Barlow  
*Pacific Northwest National Laboratory, USA*

Galen Fisher  
*Delphi, USA*

Thomas Hammer  
*Siemens AG, Germany*

John Hoard  
*Ford Motor Company, USA*

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