

20th Anniversary

**Once Upon A Christmas Cheery
In The Lab Of Shakhshiri**

December 1989



*December 11-12
University of
Wisconsin-Madison*

*December 18-19
National Academy of Sciences,
Washington, D.C.*

*December 27
Boston Museum of Science*

PROGRAM

December 11-12

7:30 p.m.

Farrington Daniels Chemistry Building
University of Wisconsin-Madison



December 18-19

7:30 p.m.

National Academy of Sciences

Dr. Frank Press
President
National Academy of Sciences

Welcoming Remarks

Mr. Bill G. Aldridge
Executive Director
National Science Teachers Association

Introduction of Speaker

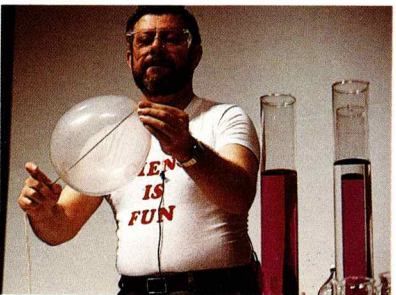
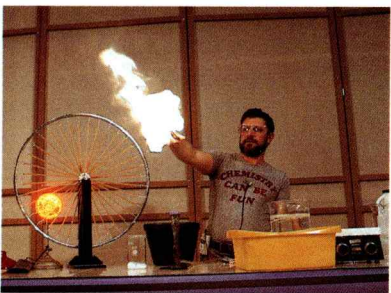
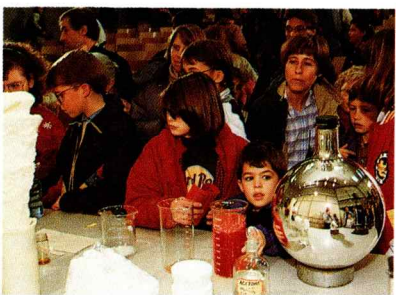


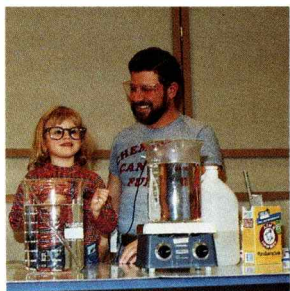
December 27

Boston Museum of Science

3:30 p.m.

7:30 p.m.





Bassam Z. Shakhashiri is Assistant Director of the National Science Foundation for Science and Engineering Education, on leave from the University of Wisconsin-Madison, where he is Professor of Chemistry. As the principal education officer of the Foundation, he is responsible for developing policy for federal and national strategic leadership in science, mathematics and engineering education.

Policies and plans are reviewed and acted upon by the Director of the National Science Foundation, the National Science Board, the White House Office of Science and Technology Policy, the White House Office of Management and Budget, and the Congress. He is responsible for planning the NSF education budget, for developing approval and support for it, and for the implementation of federal programs for which funds are appropriated by Congress and approved by the President for NSF's science education activities. For Fiscal Year 1990, the science and engineering education activities are budgeted at over \$200 million (up from about \$50 million in Fiscal Year 1986) and range from fellowship support of graduate education to curriculum development, faculty enhancement, and instrumentation and laboratory improvement for undergraduate education to major curriculum development and teacher enhancement programs for elementary and secondary schools.

Dr. Shakhashiri was born in Lebanon, where he completed high school and attended the American University of Beirut for one year. He accompanied his parents and two sisters to the United States in 1957, and completed his undergraduate studies at Boston University in 1960. Dr. Shakhashiri was a Teaching Fellow in Chemistry at Bowdoin College in 1960-1961. His graduate studies were completed at the University of Maryland, which awarded him the M.Sc. and Ph.D. degrees. After a year as post-doctoral research associate at the University of Illinois, Urbana, he was for two additional years a member of its faculty in Chemistry. In 1970, he was invited to the faculty of the University of Wisconsin-Madison and became Professor of Chemistry in 1980. Prior to joining the NSF in June of 1984, he was the Founding Director of the Institute for Chemical Education at the University of Wisconsin-Madison.

Every year since 1970, he has conducted a special Christmas Lecture full of demonstrations for his chemistry students and their

friends. This program quickly expanded to an event eagerly awaited by the Madison community, and since 1973, it has been shown on local television and to audiences throughout the country. From 1984 to 1986 his Christmas Lecture was presented in Washington at the National Academy of Sciences, and in 1987 and 1988 at the Samuel P. Langley Theater of the National Air and Space Museum of the Smithsonian Institution. Beginning in 1986, the Christmas Lecture was presented in Boston at the Museum of Science. Dr. Shakhashiri learned the tradition of Michael Faraday's Christmas Lecture from University of Illinois Professor Gilbert P. Haight, Jr., who had learned it from Princeton University Professor Hubert Aleya.

Dr. Shakhashiri is renowned for his development and use of demonstrations in the teaching of chemistry. He has conducted numerous workshops for college and school teachers on a variety of educational topics and has presented more than five hundred lecture demonstrations to audiences of all ages in a variety of settings including schools, convention centers, shopping centers, and retirement homes. As a consultant to the Chicago Museum of Science and Industry, Dr. Shakhashiri and his associates developed in 1983 an interactive chemistry exhibit, the first of its kind in the United States. He is co-author of several publications including: **MANUAL FOR LABORATORY INVESTIGATIONS IN GENERAL CHEMISTRY; WORKBOOK FOR GENERAL CHEMISTRY AUDIO-TAPE LESSONS; CHEMICAL DEMONSTRATIONS: A HANDBOOK FOR TEACHERS OF CHEMISTRY, VOLUMES 1, 2 AND 3.**

Dr. Shakhashiri has received many awards including the 1977 Keikhofer Distinguished Teaching Award from the University of Wisconsin-Madison, the 1979 Manufacturing Chemists Association Catalyst Award, the 1982 Ron Gibbs Award of the Wisconsin Society of Science Teachers, and the 1987 Boston University General Alumni Association Award for Distinguished Public Service. He is the youngest recipient of both the American Chemical Society's James Flack Norris Award for Outstanding Achievement in the Teaching of Chemistry (1983) and the ACS Award in Chemical Education (1986). In 1988, the George Washington University conferred upon him the degree of Doctor of Public Service and Illinois State University awarded him the degree of Doctor of Humane Letters—for distinguished service to the science of chemistry, to science education, and to the Nation.

Michael Faraday's Christmas Lecture

Michael Faraday, the noted English physicist and chemist, lived from 1791 to 1867. He was a gifted lecturer, and he began giving his Christmas Lectures for children at the Royal Institution of Great Britain in the 1840s. Faraday loved simplicity, and he had a strong sense of the dramatic. His audience entered wholeheartedly into the world of science with him as guide. His ideas were still considered very unorthodox at that time, and children, who had not yet adopted conventional ideas, would react enthusiastically to the ones he presented. Eventually, the lectures became very popular, and even the Prince of Wales attended and learned about the mysteries of electricity. Faraday sought to awaken to sense of wonder in his listeners. He knew that once a person could be made to wonder about the world, it was only a short step to studying it. He strove to point out that if you looked closely at the most ordinary thing, such as the force of gravity, it ceased to be ordinary and became somehow miraculous. Faraday did all he could to urge his listeners to see and judge for themselves, to experiment—to question nature directly—whenever anyone discovered something out of the ordinary.

Acknowledgements

The 1989 Christmas Lecture was made possible through the cooperation of:

National Science Foundation
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Santa Claus
Santa's Elves