

NAME *David J. Green*

Academic Rank: Professor of Ceramic Science & Engineering
Member, Graduate Faculty

Date Of Appointment September 1, 1984

Advancement In Rank: Professor of Ceramic Science & Engineering, July 1991

Education

B.Sc. (Chemistry) University of Liverpool, England (1968)
B.Sc. (Materials Science) University of Liverpool, England (1970)
M.Sc. (Materials Science) McMaster University, Canada (1972)
Ph.D. (Materials Science) McMaster University, Canada (1977)

Experience

1975–79 Research Scientist, CANMET, Dept. of Energy Mines and Resources, Canada
1979–84 Member of Technical Staff, Rockwell International Science Center, California
1984–90 Associate Professor of Ceramic Science and Engineering, Penn State
1990– Professor of Ceramic Science and Engineering, Penn State
1992–98 Program Chair, Program Chair for Ceramic Science and Engineering, Penn State
1996–98 Program Chair, Program Chair for Electronic and Photonic Materials, Penn State

Honors

First Class Honors B.Sc. Degree (1970)
NASA Certificate of Recognition (1988)
Patent Awards (1990, 1996)
Fellow of American Ceramic Society (1991)
Gordon Conference Chair (1994)
EPSRC Fellowship, UK, Oxford University (1998)
Dept. of Materials Science and Engineering Service Award (1998)
Wilson Research Award, College of Earth and Mineral Sciences, Penn State (1999)

Professional Activities

American Ceramic Society: Symposia Organizer, Editorial sub-chairman (1983-88); Associate Editor (1988–98); Publications Committee (1991–94); Vice President -Publications (1994–96); Journal of the American Ceramic Society Editor (1998–02), Senior Editor (2002–)
Pennsylvania Ceramics Association: Secretary/Treasurer (1993–), Annual Forum Organizer (1984–)
Canadian Ceramic Society,
Materials Research Society: Symposia Organizer,

Publications

Author/co-author of over 200 technical publications, co-author book, "Transformation Toughening of Ceramics." co-editor MRS conference proceedings on porous materials.
Author of textbook, "Introduction to the Mechanical Properties of Ceramics."

University Service

College Promotion and Tenure Committee (1995/96), College Associate Dean Search, College Scholarship Committee (1997–98), Faculty Senate (1998–).

DAVID J. GREEN:

Professor Ceramic Science and Engineering. Dr. Green has 29 years of experience in ceramic research. After graduating from the University of Liverpool, England with a B.Sc. (Chemistry/Materials Science) in 1970, he completed his graduate studies in Materials Science at McMaster University, Canada (1977). In these studies, he worked on microstructural aspects of fracture in ceramic materials. In particular, he demonstrated the importance of microcracking in the fracture of ZrO_2 -based materials and also developed a specialized technique (ultrasonic fractography) for studying crack-particle interactions in brittle materials.

In 1975, Dr. Green joined the Canadian Federal Government to work in the Department of Energy, Mines and Resources. The primary emphasis of this work was concerned with the preparation of ultrafine, homogeneous ceramic powders for the fabrication of solid electrolytes for use in energy conversion and storage systems.

Joining Rockwell International Science Center in 1979, Dr. Green continued to study the relation between fabrication, microstructure and the properties of ceramic materials. This research included microcracking in ceramics, reliability of ceramics in structural design, failure analysis, micromechanical theory, fabrication and evaluation of transformation-toughened ceramics, surface stresses in ceramics and the mechanical behavior of lightweight ceramics.

In 1984, Dr. Green joined The Pennsylvania State University and is combining his research on the mechanical behavior of ceramics with teaching. He was promoted to Professor in 1991. In 1992, Dr. Green became Program Chair for Ceramic Science and Engineering and in 1995, for Electronic and Photonic Materials, both of which involve the organization of the undergraduate and graduate degree programs. Dr. Green has authored or co-authored more than 200 publications including two books, "Transformation Toughening of Ceramics", "Introduction to the Mechanical Properties of Ceramics" and a co-edited, conference proceedings, "Mechanical Properties of Porous and Cellular Materials." The second of these books has recently been translated into Korean and Chinese. Dr. Green is an active member of the American Ceramic Society, which includes the position of Senior Journal Editor. In addition for this Society, Dr. Green was co-instructor of a short course on the mechanical behavior of ceramics. In 1991, he was made a Fellow of the Society and acted as Vice President for Publications from 1994 to 1996, the latter of which involved membership on the Executive Committee for the Board of Trustees. In addition to numerous invited talks, Dr. Green has been granted three US patents. In 1994, Dr. Green was chair for the Gordon Research Conference, Solid State Studies in Ceramics. In 1998, Dr. Green received an EPSRC Fellowship to visit Oxford University in the UK.

RESEARCH INTERESTS: Relationships between fabrication, microstructure and the properties of ceramic materials and glass; inc., microcracking in ceramics, reliability of ceramics and glasses in structural design, failure analysis, micromechanical theory, fabrication and evaluation of transformation-toughened ceramics, surface stresses in ceramics and the mechanical behavior of porous, lightweight ceramics.

