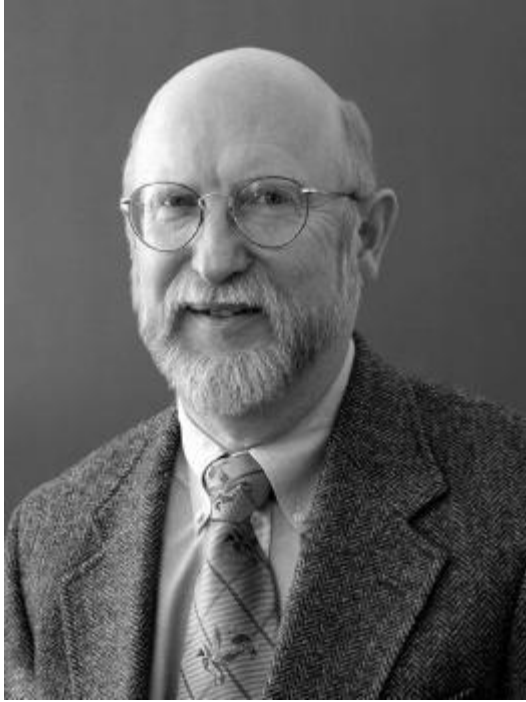


## Varner to deliver Scholes Lecture

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James Varner, professor emeritus of ceramic engineering in the [Inamori School of Engineering](#) at [Alfred University](#) (AU), will deliver the annual Samuel R. Scholes Sr. Lecture at 11:20 a.m. Thursday, April 25, in Harder Hall auditorium on the AU campus.

Varner's talk, "Fractography The Key to Reliability (It's Elementary!)," focuses on the key role that fractography plays in ensuring mechanical reliability.

Fractography, Varner explains, is the "means and methods for characterizing a fractured specimen or component." Fractography involves examining and interpreting markings on surfaces created by fracture, and crack patterns.

He says his presentation focuses on fractography of glasses, but the same general principles apply to fractography of ceramics. Fracture markings and crack patterns will be shown and discussed. Quantitative fractography will be introduced. Examples and case studies will be provided that illustrate the essential role of fractography in understanding glass strength and in ensuring mechanical reliability.

The School of Engineering each year selects an expert in the field of glass science to deliver the Scholes Lecture, which honors the memory of Samuel R. Scholes Sr., who founded the glass science program at Alfred University more than 80 years ago.

A 1966 alumnus of Alfred University with a degree in ceramic science, magna cum laude, Varner also earned his master's and Ph.D. degrees from Alfred University. It was at Alfred that Varner developed his lifelong interest in mechanical properties of materials, with a particular interest in fractography, the study of how and why materials crack, break or fail. He completed his senior thesis under the tutelage of the late Prof. Van Derck Frechette, considered to be one of the foremost experts of his time in the field of fractography. Frechette was also Varner's Ph.D. advisor for his research on slow-crack growth in glasses.

After he earned his Ph.D., Varner went to the Universitat Erlangen-Nurnberg, Erlangen, Germany, where he spent six years as an assistant professor. He spent three years as a faculty member in the materials department at the University of California-Los Angeles before joining the AU faculty in 1980, where he remained until his retirement in 2011.

During his career, Varner held summer and sabbatical positions at the National Aeronautic and Space Administration Ames Research Center, Moffett Field, CA; the Jet Propulsion Laboratory in Pasadena, CA; the Fraunhofer Institute fur Werkstoffmechanik in Freiburg, Germany; Corning Incorporated, Corning, NY, and Martin-Luther Universitat Halle-Wittenberg. Halle, Germany.

He is a Fellow of the American Ceramic Society, an Ehrenmitglied (honored member) of the Deutsche Glastechnische Gesellschaft, a member of the National Institute of Ceramic Engineers, and a member of the following honor societies: Keramos, Phi Kappa Phi, Tau Beta Pi, and Phi Beta Kappa.

Varner received the State University of New York Chancellor&s (SUNY) Award for Excellence in Teaching in 2004 and was named a Kruson Distinguished Professor by Alfred University.

During his tenure as a faculty member, Varner taught mechanical properties, microscopy and fractography. He was the study abroad advisor for many years and was also involved in university governance, including two terms as the SUNY senator for the College of Ceramics, chair of the College Faculty Council and president of the University Faculty Senate.

Varner is author or co-author of more than 75 technical papers, and editor of 10 conference proceedings.

His research interests center on mechanical properties of glasses and ceramics, particularly the areas of contact damage, hardness, fracture toughness, processing effects on mechanical properties, and fractography.

He is a well-known consultant for failure analysis of glasses and ceramics, and has worked with major glass manufacturers and users to help them improve reliability in manufacturing and product use.

His summer short course, "Failure Analysis of Brittle Materials," which he co-taught with George Quinn, has been sold out every year but one since 1996 when it was introduced in its present form.