T.J. Kiczenski



Title: Advancing the understanding and utilization of glass relaxation in commercial applications

Abstract: The glass industry has long relied upon a detailed understanding of glass relaxation to produce a wide range of products, from manufacturing tempered glass and glass ceramics to controlling dimensional stability in TFT manufacturing processes. This talk will describe some of our recent research into glass relaxation and how these new findings can be incorporated directly into new product design. Specifically, we will be discussing some of the quite surprising results of room temperature relaxation we have recently observed in alkali aluminosilicate glasses. Ultimately, we will discuss how glass relaxation is a rich research area for investigation with several unanswered questions and potentially significant industrial impact.

Biography: Dr. T.J. Kiczenski is a Research Associate in the Glass Research Group at Corning Incorporated. He is regarded as a subject matter expert on the design of fusion formable glass compositions as well as compaction and relaxation phenomena. His work includes investigations of the physics of glass relaxation, liquidus relationships in multicomponent glass forming systems, metallic glasses, and glass/glass and glass/ceramic composite materials. He is credited as the inventor or co-inventor of several Corning High Performance Display products, including Jade[™], Lotus[™] and Lotus[™] XT in addition to co-developing several fusion-formable compositions for CIGS substrates and CdTe superstrates for Corning's photovoltaic effort.

Before joining Corning in 2005, he received his PhD in geology and M.S. in materials science from Stanford University where he used NMR spectroscopy to investigate the structure of fluorine in silicate and aluminosilicate glasses as a function of chemistry and thermal history. He received his B.A. degree in physics from Coe College where he studied the impact of glass composition on the physical properties of alkali-germanate glasses.