

# Webinar Tutorial Program

Convenient, Relevant, Interactive, and Affordable Education Opportunities

## W-208

The SVC Webinar Program is a convenient approach to education, featuring SVC's most popular tutorials, covering topics relevant to technical staff and operators. These Webinars are presented by recognized professionals in the vacuum coating community and allow participants the ability to interact with the instructor during the live presentation. SVC offers both Live and On-Demand (recorded) versions of webinars.

## Sputter Deposition Webinar

This course emphasizes issues of practical importance to those using sputtering as a manufacturing process. It is intended for engineers, scientists and technicians who would like an understanding of the factors that influence product throughput, coating quality, and process robustness and reliability. The primary focus will be on the use of planar magnetrons of various shapes, but other sources will be covered as well. The relationships between the sputtering conditions and important film properties- such as microstructure, composition, stress, and adhesion will be discussed. New developments that are finding their way into practical applications will also be highlighted. No prior formal training in sputtering is required.

- Sputtering plasmas and the nature of the sputtering process
- Cathode designs and coating uniformity
- Film nucleation and growth
- Effects of substrate temperature and energetic bombardment on film structure
- Biased sputtering and the use of unbalanced magnetrons
- Coating stress and the causes of stress
- rf, dc, pulsed dc, and ac reactive sputtering of dielectrics
- Sources of substrate heating
- Process control methods for reactive sputtering
- Arcing, disappearing anodes, and other process stability issues
- High Power Pulsed Magnetron Sputtering (HPPMS or HIPIMS)

### Meet the Instructor

David A. Glocker founded Isoflux Incorporated, a manufacturer of magnetron equipment, in 1993. He has more than 30 years' experience in thin film research, development, and manufacturing and has taken a number of new processes from laboratory-scale feasibility studies through successful production. He is an inventor or co-inventor of 31 U.S. patents and an author of more than 30 research papers in the areas of sputter source design, plasmas and plasma characteristics, sources of substrate heating in sputtering, and the control of sputtering processes and sputtered film properties. He also is the co-editor of The Handbook of Thin Film Process Technology, a major reference work in the field.

