



DINNER/SPEAKER MEETING

Southern California Chapter of the AVS

Tuesday, March 24, 2009 • UCI University Club, Irvine

“High Power Pulsed Magnetron Sputtering”

presented by William D. Sproul, Ph.D.

High power pulsed magnetron sputtering (HPPMS) was introduced by Dr. Vladimir Kouznetsov in 1999. With HPPMS, a very large power pulse is applied to the magnetron sputtering cathode for a very short period of time (100 to 150 μ sec). The pulse is periodically repeated to provide an average power that is typical for magnetron sputtering with a pulse duty cycle less than 1%. The allure of HPPMS is that a flux of ions is generated instead of a flux of neutral atoms that can result in fully dense, low stress films.

The challenge to the material scientist is to understand this new HPPMS technology and to learn how to apply it to produce materials and films that have hitherto been impossible to deposit by other sputtering techniques. Dr. Sproul's presentation will examine how different process parameters affect the structure and properties of the films. He will also discuss the modulated pulse power (MPP) technique, which gives significantly higher deposition rates than the Kouznetsov method.

About the Speaker

William Sproul is founder and owner of Reactive Sputtering, Inc. Prior to starting his own company, he worked at Advanced Energy Industries, the Borg-Warner Corporation, Northwestern University, and Sputtered Films, Inc. Throughout his career he has been involved with the sputter deposition of hard materials for wear and corrosion applications. He is the author or co-author of more than 158 technical papers, holds 11 patents, and is the inventor of the high rate reactive sputtering process.

Dr. Sproul is a past president of the American Vacuum Society and chaired the International Conference on Metallurgical Coating and Thin Films (ICMCTF) three times. Currently he is on the SVC Board of Directors and serves as treasurer of the ICMCTF.



Date: Tuesday, March 24, 2009

Time: 6:00 pm Meet and Greet
7:00 pm Dinner
8:00 pm Presentation by Dr. Sproul

Cost: \$20.00 per person / Student \$10.00

Menu: London Broil Bourguignon or
Chicken Marsala Blush or Penne Pesto
Includes dinner salad, vegetables, sherbet,
and a selection of iced tea, soda or coffee

Non members are welcome!

LOCATION

**UCI University Club • 801 East Peltason Dr. • Irvine, CA 92697
Free Parking (Directions @ www.sccavs.org)**



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REGISTRATION FORM

Deadline: March 10, 2009

Payment by **check only** to:
(no credit card or purchase orders accepted)

**SCCAVS, P.O. Box 3067
San Clemente, CA 92674-3067**

**For additional information, contact: Linda Ellsworth
lindaellsworth@cox.net
(949) 361-8120 • Fax: (949) 361-9190**



**Southern California Chapter of the AVS
2009 Speaker Meeting**

Check Enclosed (payable to SCCAVS)

Name _____
Company/Org _____
Address _____ Mail Stop _____
City _____ State _____ Zip _____
Phone _____
Fax _____
Email _____

*Please register me for the
SCCAVS Dinner/Speaker Meeting on March 24, 2009*

- London Broil Bourguignon
- Chicken Marsala Blush
- Penne Pesto

Cost: \$20.00

Student: \$10.00