The Southern California Chapter of the AVS invites you to a lecture on Thin Film Filters and Coatings for Ultraviolet Astronomy, Astrophysics, and Planetary Science. The lecture will be held as a webinar via ZOOM on July 21, 2020, at 7 pm PDT.

Our presenter, April Jewell, Ph.D., of the Jet Propulsion Laboratory, will discuss JPL’s 2D-doped silicon detectors and advanced coatings technologies, including a discussion of practical materials, design, and deposition techniques for ultraviolet (UV) films. Device response is improved using AR coatings to mitigate reflection losses.

JPL uses atomic layer deposition (ALD) to prepare AR coatings, which uses a series of self-limiting chemical reactions to grow thin films on surfaces. Due to its highly controlled growth mechanism, in which a film is deposited a fraction of a monolayer at a time, ALD gives nanometer-scale control over film thickness and composition with well-defined, sharp interfaces. The result is 2D-doped detectors that exhibit record UV performance.

The detectors are enabling significant advances in instrument technologies for exciting new science in astrophysics, planetary science, and heliophysics, including on vehicles such as sounding rockets, suborbital balloons, CubeSats, and future Explorer, Probe, and Flagship missions.

Dr. April Jewell is a member of JPL’s Advanced Detectors, Systems and Nanoscience Group. She has a degrees from George Washington University (BS, Chemistry) and Tufts University (PhD, Chemistry). Her work is focused on post-fabrication processing and optimization techniques for silicon-based imagers with the goal of fine-tuning a detector’s response for project- or mission-specific applications. Dr. Jewell’s work is a combination of material science and process development; she uses molecular beam epitaxy (MBE) for surface band structure engineering and atomic layer deposition (ALD) for nanometer-scale coatings and filters. Dr. Jewell’s surface science background allows her to develop MBE and ALD processes that are general enough that they can be applied to virtually any silicon-based imager. Dr. Jewell is a recent recipient of SPIE’s Rising Researcher Award and JPL’s Charles Elachi Award for Early Career Achievement.
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SCCAVS Webinar Series Starts July 21st With April Jewell of JPL (Cont’d)

The cost to attend is FREE and the Southern California Chapter of the AVS encourages you to submit topics of interest for upcoming webinars in this series, to promote communication and networking of professionals in the Southern California region working in a variety of disciplines—chemistry, physics, biology, mathematics, all engineering disciplines, business, sales, etc.

Registration for the Zoom seminar can be completed at the following link:

https://us02web.zoom.us/webinar/register/WN_b8jGKG4MSX6yyCYUGIIs4g

For additional information, please contact chair@sccavs.org

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2020 Elmer Carvey Winner

A winner of the 2020 Elmer Carvey Scholarship is Emilio Ocampo, a graduating senior from San Marcos High School. Mr. Ocampo will be joining UCLA in the fall, where he will be majoring in Physics.

Besides excelling academically, Mr. Ocampo was accepted and participated in several research programs under the auspices of UC San Diego and UC Davis. For example, He received a scholarship to conduct research as part of the ENLACE program, which is a seven week binational (US & Mexico) summer residential program at UC San Diego. His research was titled, “Spectroscopy and the Implications for Nuclear Fusion Energy.” Dr. Christofer McGuffey – an Associate Project Scientist at UC San Diego – reported that Mr. Ocampo had a strong curiosity and follow-through to understand scientific topics, grasping many of the scientific concepts that are assigned to beginning graduate students.

Among his many awards and distinctions, Mr. Ocampo was a “Regents’ and Chancellor’s Scholarship at UC Berkeley Finalist.” He was also chosen as an Excalibur Knight, one of twenty two students that were selected by the Principal at San Marco High School, whose duties included mentoring, public speaking at events, and serving as a role model in his school community.

Mr. Ocampo plans to continue his research while an undergraduate at UCLA. His long term plans are to attain a PhD in Physics or Engineering and apply that Materials Science problems.

The Elmer Carvey Memorial Scholarship was established in honor of Elmer Carvey, an active member of the SCCAVS from 1964 until 1982. The Scholarship is awarded to undergraduate students attending public, four-year colleges in California who are planning careers in areas of interest to the society, which include vacuum-related technologies, surface and thin film science, nanotechnology, the understanding of materials properties, and the development of new materials. The stipend is $1,500.00 for one year.
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Upcoming e-Talk:

August 19, 2020, 1PM EDT
*Organic Electronics-Connecting Nature*
By Magnus Brown

Upcoming Webinars:

August 26, 2020, 1PM EDT
*Stress Evolution During Thin Film Deposition*
By: Gregory Abadias

September 23, 2020, 1PM EDT
*Surface Characterization of Biomaterials with X-Rays and Ion Guns*
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**July/August 2020**

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Chapter Planning Meeting via ZOOM 1PM

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Southern California Chapter

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