

**Minutes**  
**National VHA Electron Microscopy Ad Hoc Review Group**  
**Annual Committee Meeting**  
**Hilton San Diego Bayfront Hotel**  
**Aqua Room 307**  
**1 Park Boulevard**  
**San Diego, CA**  
**Saturday, 1 March, 2014**

**Committee Members Present:**

William Clapp  
Barbara Crain  
Guillermo A. Herrera (Faculty Speaker)  
David N. Howell  
Allan J. Tucker  
John D. Shelburne

**Other Meeting Attendees & Guests:**

Ann LeFurgey  
Peter Ingram (Guest)

**Welcome/Introductions (Dr. Shelburne)**

Dr. Shelburne greeted and thanked the committee members for graciously giving of their expertise to the VHA Diagnostic Electron Microscopy (EM) Program, especially the pre-meeting work of each panel member to review cases and the time they were expending to attend the meeting. He announced the dedication of the meeting to EM Facility Director Dr. Terry Oberley, Madison, WI, VAMC, who died on 15 October, 2013. A certificate of appreciation from the Diagnostic EM Program will be sent to Dr. Oberley's family.

Drs. Shelburne provided updates to the members on key issues and ongoing projects in Veterans Health Administration system. The committee members then provided brief updates to the group on the EM programs at their local facilities.

**Minutes from last meeting (Baltimore, MD)**

The members reviewed the minutes from last year's meeting held in Baltimore, Maryland. There were no additions or corrections. The minutes were accepted by the committee correct as they are.

**Discussion of Specific Programs**

The committee reviewed all diagnostic EM Programs. Program closures and changes in EM Lab Programs were discussed. The original reviewer's ratings and group consensus of these discussions and the detailed case and program reviews are summarized in the annual review letters which are sent to each laboratory.

**Scientific Program**

Dr. Guillermo Herrera gave the keynote scientific presentation on a model of light-chain mediated mesangial cell injury developed in his laboratory and being employed in studies to develop clinical treatments for kidney disease. After an enthusiastic and extensive discussion of Dr. Herrera's research program, Ann LeFurgey presented a short summary of some of the highlights in microscopy and technical advances occurring in FY13. Abstracts of both these presentations are included at the end of these minutes.

The scientific program continued again on Sunday, 2 March, from 2-5 pm, when the group met to visit the *National Center for Microscopy Imaging and Research (NCMIR, <http://ncmir.ucsd.edu/index.shtml>)*, *University of California, San Diego*, with a tour and overview/presentation provided by Center Director Mark Ellisman.

The next USCAP meeting is scheduled for Boston, Massachusetts, March 21-27, 2015. We are planning tentatively to hold the next meeting of the EM annual review group on Saturday, March 21<sup>st</sup>, 2015 in Boston.

**Meeting adjourned**



\_\_\_\_\_  
John D. Shelburne, MD, PhD  
Chair

4/25/14

Date

\_\_\_\_\_  
Ann LeFurgey, PhD  
Recorder

4/25/14

Date

ABSTRACTS OF THE SCIENTIFIC PRESENTATIONS

[We Understand Best What We Can See:  
The Power of Electron Microscopy in a Unique Research Model](#)

**Guillermo Herrera, MD**

**Albert G. and Harriet G. Smith Professor and Chair of Pathology**

LSU Health Shreveport, Shreveport, LA

The light chain-mediated mesangial injury model has provided an excellent platform to highlight the value of electron and scanning electron microscopy in the evaluation of experimental samples and formulation of research questions. Glomerulopathic light chains interact with mesangial cells and the pathology observed in renal biopsies is recapitulated in in-vitro and in-vivo experimental platforms.

**Recent Publications:**

1: Teng J, Turbat-Herrera EA, Herrera GA. Extrusion of Amyloid Fibrils to the Extracellular Space in Experimental Mesangial AL-Amyloidosis: Transmission and Scanning Electron Microscopy Studies and Correlation with Renal Biopsy Observations. *Ultrastruct Pathol.* 2014 Jan 24. [Epub ahead of print] PubMed PMID: 24460740.

2: Herrera GA, Turbat-Herrera EA. Ancillary diagnostic techniques in the evaluation of adult epithelial renal neoplasms: indications, caveats, and pitfalls. *Appl Immunohistochem Mol Morphol.* 2014 Feb; 22(2):77-98. doi: 10.1097/PAI.0b013e318297d569. PubMed PMID: 24162266.

[Advances in Microscopy](#)

**Ann LeFurgey, PhD**

**Durham VAMC, Durham, NC**

Types of microscopies available for diagnostic and research imaging continue to increase exponentially. Coupled with genetically encoded probes for time and spatial localization of molecular entities, this selection of tools expands our ability to correlate structure with function ranging from the subcellular to the organ and organism level.

**References:**

Boassa D, Berlanga M, Yang M, Terada M, Hu J, Bushong E, Hwang M, Masliah E, George J, Ellisman M (2013) Mapping the Subcellular Distribution of  $\alpha$ -Synuclein in Neurons using Genetically Encoded Probes for Correlated Light and Electron Microscopy: Implications for Parkinson's Disease Pathogenesis. *The Journal of Neuroscience* 33:2605-15 [Direct Link](#)

Orloff D, Iwasa J, Martone M, Ellisman M, Kane C (2013) The cell: an image library-CCDB: a curated repository of microscopy data. *Nucleic Acids Research* 41:D1241-50 [Direct Link](#)

Schmid B, Shah G, Scherf N, Weber M et al (2013) High speed panoramic light-sheet microscopy reveals global endodermal cell dynamics. *Nature Comm* 4: 2207; doi:10.1038/ncomms3207