

port for biological macromolecules for SEM (6). They used a low molecular weight (3,400 Daltons) poly-L-lysine as an adhesive to hold native ferritin onto the surface of the silicon wafer. The doped silicon wafers were considered an improvement over glass as they were more electrically conductive, allowed a lighter metal coating, and resulted in reduced charging artifacts in the SEM, especially at higher magnifications and higher accelerating voltages. The silicon wafers were doped with antimony or boron.

Poly-L-lysine is available in a broad range of molecular weights and as suggested by the work done by these various authors, one may select a size molecule appropriate to the cell or particle of interest. The poly-L-lysine molecule has to be large enough to hold the particle or cell but not so large as to obscure it. Sigma-Aldrich (7) offers poly-L-lysine in molecular weights ranging from 500 up to greater than 300,000 Daltons, so one has a broad range of molecular weights with which to work. In all these examples, the poly-L-lysine was applied to the substrate, not to the cells.

To recap the evolution of this method; it started out with the need to secure a relatively small thing, an echinoderm egg, to a substrate without the adhesive greatly changing the egg itself. From there it progressed to using poly-L-lysine specifically, and it was noticed that in the very act of settling, the living cell did experience some changes; the cells tended to flatten and fibers inside rearranged at the site of contact. This response was halted by fixation. Fixing the cells prior to adhesion maintained the cell shape and the cells stuck just fine. Finally, we come to the use of poly-L-lysine to secure cells, living or fixed, onto poly-L-lysine treated silicon chips, which is what we do in our core facility. ■

References:

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president, Dr. Francis Heckman, with an Emeritus membership award and certificate. Dr. Heckman is one of very few charter members of the society who remain as active members, though two or three others are known to be active professionally in other parts of the country. The society was delighted to welcome his wife and daughter, who accompanied him as he was clearly delighted to accept the award. All attendees at the meeting were given a commemorative 10x triplet magnifying loupe with the NESM logo.

The society changed its name, dropping the "Electron" in 1992, at the same time that the Electron Microscopy Society of America made a similar change.

The society, which is a local affiliate of both the Microscopy Society of America and of the Microbeam Analysis Society, draws a preponderance of its membership from the Eastern Massachusetts conurbation, though there are active members as far away as Burlington, VT and Bar Harbor, ME. There are presently over 100 active members, and 20 corporate sponsors. There are four technical meetings each year, and there are three different groups of members active with Project Micro kits, working with elementary/middle school students in their respective communities.

The largest of the meetings is the three-day Spring symposium, held the first weekend of May at the Marine Biological Laboratory in Woods Hole. Typically, the first day consists of a workshop on some topic related to microscopy, while the Friday and Saturday are taken up with platform and poster presentations, a banquet and after-dinner talk, and a time to mingle with the corporate sponsors.

The Fall symposium consists of a scientific and annual business meeting, ending with a dinner, and taking an afternoon and evening in early December, while the two remaining meetings are typically evening meetings held at the facilities of a corporate sponsor or a local college, though the Board is always willing to try different formats.

All NESM meetings are planned to include both Biological and Physical Sciences topics of general interest to all microscopists. Students are encouraged to attend and receive substantial discounts on membership dues and meeting registration fees. The meetings are sometimes co-sponsored with other groups, such as the Connecticut Microscopy Society (CMS).

NESM has hosted the MSA Traveling Speakers as well as the Traveling Poster Collections. We have invited speakers from all over the country to present their work to our members. Recently, these speakers have come from facilities such as Oak Ridge National Laboratories, Yale, Harvard, MIT, and many other internationally recognized facilities. We include topics from academia, industry, and health sciences.

Political economic initiatives like support for bio and nano tech projects in Massachusetts will continue to drive the microscopy community in New England. The concentration of high tech industry and educational institutions in New England all make the microscopy community very valuable to the area and to science in general.

Please visit our website to check out our next meetings, newsletters, and other information. We welcome new members and encourage other local organizations to come to New England. Web Site: <http://nesm.cims.harvard.edu>. ■

Microscopy Society of America Local Affiliate Society

New England Society for Microscopy

The New England Society for Microscopy was founded (as the New England Society for Electron Microscopy) in 1967, and has marked its 40th anniversary during 2007 with several special events. Most notable was the "Presidents' Evening" during the Spring Symposium in May, when a number of former presidents offered reflections on their times in the Society, and which culminated in the honoring of the Society's first (and ninth and twenty-fourth)