NYCPM *NEWS* New York College of Podiatric Medicine
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Get to Know NYCPM's Faculty: Zev Leifer, PhD

Professor of Pre-Clinical Sciences

Zev Leifer, PhD, earned his doctorate from the New York University Medical School in 1972 (in microbiology, on the function of polyamines in bacteria), after receiving an undergraduate degree at Yeshiva University and a master's from Harvard in medical science. He followed his PhD with four years of post-doctoral research, and then joined the microbiology faculty at New York Medical College at Valhalla, NY before joining the faculty at NYCPM in 1982.

Dr. Leifer teaches Bacteriology to freshmen in both the September and January classes, and Pathology Lab to second year students, in which they analyze slides of pathological tissue using virtual microscopy (digital pathology).

Both standard and digital pathology investigations start with the preparation of a glass slide. In the digital approach, the slide is scanned and converted to a digital image. A student views the slide with a computer instead of a microscope. The digital approach to pathology offers many advantages, according to Dr. Leifer. Both normal and abnormal images can be viewed side by side, notes made, areas of interest circled, and the images saved. Dr. Leifer calls that a "value-added slide." This approach also allows sharing of the slides. At the professional level two pathologists can view and control the same slide simultaneously even from distant locations. The sharing is part of a sub-branch of digital pathology called telepathology, which is used to help doctors consult in the United States and to diagnose patients internationally. Dr. Leifer notes that in the U.S., digital pathology is not yet approved by the FDA for primary diagnosis. It can be used for a second opinion, however.

The digital approach helps pathology students – the ability to compare normal and abnormal tissue side-by-side helps them arrive at a diagnosis - and will help them in their post-DPM lives when they view online journals with virtual pathology images and pathology reports with digital images. For now, though, a digital approach to pathology currently makes only a marginal difference to a practicing podiatrist, he says, as the podiatrist takes a biopsy and sends the tissue to a pathologist for examination and diagnosis.

Dr. Leifer is very proud of his work to assemble a 'virtual pathology lab,' with fictional stories and slides for analysis. He's found software to prepare the HTML and sources that will make the HTML publicly available.

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He's also adapted another company's website (Quartzy, originally used for keeping track of lab supplies) to create a digital pathology resource (See Sept.-Oct. Footprints, v.3 #9-10), where organ, metadata and links to digital slides are indexed and sortable. Dr. Leifer's work is featured in the Education chapter in the monograph Digital Pathology by Drs. Yves Sucaet and Wim Waelput. He recently brought Dr. Sucaet to NYCPM to give a special lecture, "The Advent of Digital Microscopy." Dr. Leifer's websites, posters, and the chapter elaborate on his creative endeavors in an exciting new field in medical science.