

## ELECTRON MICROSCOPY UNIT

**Klaus W. Wolf, PhD – Head of Unit**

### WORK OF THE UNIT



**T**hroughout the 2005/2006 academic year, the Electron Microscopy (EM) Unit of the Mona Campus continued to assist Researchers and other Interest Groups to achieve their goals of obtaining results in and gaining a better understanding of optical and electron microscopy. Services and tuition in the fields of Electron Microscopy, various forms of Optical Microscopy (OM) and Macro-Photography (MP) were provided. Researchers on and off the

Mona Campus, Postgraduate, Undergraduate, and High School-students benefited from the EM Unit. Table 1 indicates services that the EM Unit has provided.

Tab. 1: Services provided by the EM Unit during the academic year 2005/2006

Specimen	Technique	Institution
Algae and asbestos	OM	RPS Health, Safety & Environment, Scotland
Artemia species	OM	Dept. Life Sci., UWI, Mona
Aquatic Hemiptera	OM	Dept. Life Sci., UWI, Mona
Barb of a stingray	OM	Dept. Basic Med. Sci., UWI, Mona
Cactus fruit	MP	Dept. Life Sci, UWI, Mona
Fungi	MP	Dept. Life Sci, UWI, Mona
Larvae and eggs of Lepidoptera	OM	Dept. Life Sci., UWI, Mona
Mullet stomach content	OM	Dept. Life Sci, UWI, Mona
Pimento flower	OM	Dept. Life Sci, UWI, Mona
Rat synovial joints	OM	Dept. Basic Med. Sci, UWI, Mona
Rock samples	OM (polarization)	Dept. Geology and Geography, UWI, Mona (three different sets of investigators)

Small intestine of the rat	OM	Dept. Basic Med. Sci, UWI, Mona
Snails	OM	Dept. Life Sci., UWI, Mona
Snail shells	MP, OM	Dept. Life Sci, UWI, Mona
Sponges	OM	Dept. Chemistry, UWI, Mona
Sponge spicules	OM	Dept. Life Sci., UWI, Mona
Starfish	OM	Dept. Life Sci, UWI, Mona
Turmeric rhizome	OM (fluorescence microscopy)	Ministry of Commerce, Science & Technology, Jamaica
Unidentified Scolytid beetle	OM	Ministry of Commerce, Science & Technology, Jamaica
Urine sediments	OM	International Center for Nuclear and Environmental Sciences, UWI, Mona
Vertebrate Tissue	OM	Dept. Basic Med. Sci., UWI, Mona
Worm from infected human eye	OM	Dept. Microbiology, UWI, Mona

The EM Unit organized and conducted laboratory sessions in the course “Virology” offered by the Department of Life Sciences. The main feature of the laboratories involved negative staining of isolated viruses and Transmission Electron Microscopy. In addition the EM Unit contributed a laboratory session (including the marking of assignments) to the course “Research Methods” offered by the Department of Chemistry. The laboratory dealt with electron diffraction and polarization microscopy. Interns from the Cytology Unit of the University Hospital of the West Indies were also exposed to the operations of the transmission electron microscope.

Collaborations were established with researchers abroad, as indicated in Table 2. The analysis of water samples from tank Bromeliads revealed a number of new species. One of them was named *Spathidium wolfii* to acknowledge the local collaborator Dr. Wolf (published in: Foissner, W. and Xu, K., 2006, Monograph of the Spathidiidae: Protospathidiidae, Arcuospathidiidae, Apertospathulidae; Vol. 1 Monographiae Biologicae Series, Kluwer Academic Publishers).

Tab. 2 Collaborations with the EM Unit in the academic year 2005/2006

Subject	Collaborator
Ciliates in the water body of tank Bromeliads	Zoologist at the "Institut für organismische Biologie", Universität Salzburg (Austria)
Kinetics of spermatogenesis in local lizards	Zoologist at the Department of Zoology, Wittenberg University, Ohio, USA

## PUBLICATIONS

### Refereed

- \* Webster, S.A.; Mitchell, S.A.; Reid, W.A.; Ahmad, M.H. (2006) Somatic embryogenesis from leaf and zygotic embryo of *Blighia sapida* 'Cheese' ackee. *In Vitro cell. Dev. Biol.* 42: 467 - 472

### Non-Refereed

- \* Wolf, K.W.; Gardner, M. (2005) The Bleeding Tooth Nerite" A case for the malacologist and not the dentist. *Sunday Gleaner*, Aug. 7 p. B12
- \* Wolf, K.W. (2005) Peeney- Walley the money maker. 'UWI's Eye On Science' *Daily Gleaner*, Oct. 13, p. C11
- \* Reid, W. Wolf, K.W. (2006). The place where you can see what you cannot see, *Daily Gleaner*, Feb. 2, p. D8.

## PUBLIC SERVICE

### Dr. Wolf

- ad hoc referee, *Journal of the Entomological Research Society*
- ad hoc referee, *Acta Zoologica*.