

ELECTRON MICROSCOPY UNIT



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Head of Unit

WORK OF THE UNIT

Researchers on and off the Mona Campus, Graduate – Undergraduate and High School students received research results, training, exposure and understanding of scanning and transmission electron microscopy (SEM and TEM, respectively), optical microscopy (OM), macrophotography (MP) and scientific photography (SP) during the 2012/2013 academic year. The main investigations done and services provided are listed in Table 1.

Laboratory sessions were conducted in Electron Microscopy and OM in the graduate course Research Methods “C60M” from the Department of Chemistry. Dr. Wolf contributed to the graduate course Research Methods for Biologists “BL60E” from the Department of Life Sciences and the Forensic Sciences course from the Department of Basic Medical Sciences which all involved lectures and laboratories on Microscopy and Digital imaging. A lecture on Scientific Photography was delivered in

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Table1. Main investigations done during the 2012/2013 academic year.

Specimen	Technique	Institution
Aggregates	OM	Dept. of Physics
Bacillus thuringiensis (bacteria; 111 specimens)	OM	Basic Medical Sciences (Biochemistry)
Clay powders	OM	ICENS
Coconut beetle	OM	Coconut Industry Board
Dissecting Microscope setting up and testing	OM	Dept. of Life Sciences
Fish eggs	OM	Dept. of Life Sciences
Fish larvae	OM	Dept. of Life Sciences
Foraminifera (protists)	OM	Dept. of Geography & Geology
Fungi	OM	Dept. of Life Sciences
Insect eggs and larvae	OM, MP	Dept. of Life Sciences (2 different students)
Leaves of dry forest trees	MP	Dept. of Life Sciences
Macrofauna from Tank Bromeliads	OM	Dept. of Life Sciences
Ostracod samples	OM, SEM*	Dept. of Geography & Geology (1 student and 2 researchers)
Pig carcasses (forensic entomology)	SP	Dept. of Life Sciences
Plant callus	OM	Center of Biotechnology
Rat knee joint	OM	Basic Medical Sciences (Pharmacology)
Rock sections	OM	Dept. of Geography & Geology (17 different students)
Starch grains	OM	University of Technology
Tissue culture	OM	Basic Medical Sciences (Biochemistry)
Viruses from Beet Army Worm	OM	Dept. of Life Sciences

* In collaboration with the University of Technology.

the undergraduate course Research Skills from the Department of Life Sciences.

ONGOING RESEARCH

Gamete structure and development in insects, using various microscopic techniques.

The collaboration with Zoologists from the University of Salzburg (Austria) on *Ciliates in tank bromeliads* continues and a new collaboration on *Jamaican Onychophora* (velvet worms) has been established with Zoologists at the University of Leipzig (Germany).

REFEREED PUBLICATION

- Foissner, W., Bourland, W.A., **Wolf, K.W.**, Stoeck, T. and Dunthorn, M. (2013). New SSU-rDNA sequences for eleven colpodeans (Ciliophora, Colpodea) and description of Apocyrtolophosis nov. gen. *European Journal of Protistology* 50(1) available at: <http://www.sciencedirect.com/science/article/pii/S0932473913000667>