

# **Introduction to Soldering Technique and Medical Instrumentation Repair**

Date/Day: Feb 26, 2009, Thursday

Time: 7:00 pm

Where: ECB 2043

Facilitators: Lucas Vitzthum, Vince Mi, Kuya Takami, Joseph Yuen & Amit Nimunkar  
(Engineering World Health – EWH)

Website: <http://www.engr.wisc.edu/studentorgs/ewh/>

## **Introduction**

This seminar is organized by the EWH University of Wisconsin – Madison Chapter, whose mission is to deliver medical expertise and equipment to underserved nations. Through this seminar we will provide a hands-on training to the students in a. basic soldering technique and b. repair of medical equipments.

## **Introduction to Soldering Technique (~1 hour)**

We will provide hands-on training in the following:

- Proper soldering technique
- Desoldering using vacuum pump and bulb
- Heatsinks
- Splicing solid core wires
- Splicing stranded wires
- Soldering parts into perfboard
- Introduction to softwares for printed circuit board prototyping

## **Testing & Repairing Medical Equipment (~1 hour)**

We will provide a quick introduction to the basic principles involved in different medical equipments. We have acquired medical equipments from two non-profit organizations in Madison, The Hackett Hemwall Foundation

(<http://www.hacketthemwall.org/HHF/WELCOME.html> ) and Sharing Resources

Worldwide (<http://sharingresourcesworldwide.org/>) and we plan to do the following in the hands-on training session:

- Test the device for its functionality
- Make sure that the device is properly calibrated
- Acquire test data from the device
- If the device is not functioning properly trouble shoot and repair (Use the internet to find manuals or other helpful information)
- Make a list of specialized parts required to repair the equipment
- Write a short manual (with lots of pictures and diagrams for users in developing world hospitals with limited English) explaining how to use the equipment and test the equipment