

UC's AMCC Makes Big Things Happen

By: Desiré Bennett

Through her collaboration with local nonprofit arts organization Happen, Inc. and Hitachi High Technologies America, Inc., UC's Advanced Materials Characterization Center's (AMCC) Melodie Fickenscher magnifies learning with science via microscopy for area children.

Melodie Fickenscher, a recently graduated PhD student and research associate at UC, didn't always



Melodie Fickenscher hard at work in the lab.

know that she wanted to be a scientist. "I came from a background where I didn't realize I was a scientist," she said. Fickenscher studied journalism and worked as a photographer before going back to school to study math and physics.

Said Fickenscher, "A lot of my friends my age who went back to school, for whatever reason, went into science – we just figured that out about ourselves – that we could actually do that," she said. "This is kind of why I want to do this [with Happen]. I want to plant that little seed in that kid's head, even if they don't realize right away, they may realize later on that they still have an interest in science."

In hopes of sparking and cultivating that interest, Fickenscher has teamed up with local nonprofit arts organization Happen, Inc. and Hitachi High Technologies America, Inc. "I've been wanting to start a microscopy outreach program to get kids interested in microscopy because it has a broad range of sciences to which it's applicable," she said.

And now, thanks to a bevy of old, yet functional, free microscopes acquired from the UC surplus and a \$75,000 electron microscope on loan from Hitachi High Technologies, that hope is a reality. "I was able to borrow a really nice tool – a tabletop-standing electron microscope on loan from Hitachi," said Fickenscher.

That microscope, the Hitachi TM3000, is a tabletop scanning electron microscope able to observe everyday objects such as fibers, plastic, plants, and insects with magnifying capabilities of up to 30,000x.

Hitachi High Technologies America, Inc. representative Joe Furlong believes that exposing children to the nano-world helps to give them perspective on what they cannot see with their own eyes. "When students get their hands on the equipment it really hits home how much science can be fun and interesting. If we can get some of these students excited about science, perhaps they can see themselves becoming a scientist," said Furlong. "It is our hope that this program helps inspire students



The TM3000 Tabletop Microscope. Photo courtesy of Hitachi High Technologies America, Inc.



Happen, Inc. located at 4201 Hamilton Avenue.
Photo courtesy of Happen, Inc.

to pursue studies and ultimately careers in STEM (Science, Technology, Engineering, Math) fields in their futures,” he said.

Happen, Inc. executive director Tommy Rueff believes this program not only holds the possibility of inspiring future scientists but it also facilitates collaborative learning. “We want to entertain, educate and empower,” said Rueff. “To give

parents and children an opportunity to learn and experience science together makes a huge impact on families working and learning together and it will also inspire future interest in science.”

According to Fickenscher the effects of this experience will be far-reaching. “These are our next generation of scientists,” said Fickenscher. “So it’s important for us to have a broader impact on our community – so that not just students at UC but also kids in different neighborhoods can see what these tools can do and they can develop a long-term interest in them.”

Although an appointment must be made to use the TM 3000, children can bring in their own samples and look at those samples under the other microscopes.

“When using the electron microscope we will project that on the wall, with projectors acquired free from UC surplus,” explains Fickenscher. “That way everybody who is present can see what their samples look like up close.”



Children examine a sample. Photo courtesy of Hitachi High Technologies America, Inc.

The two main events will occur May 5 and May 12, 2013. Parents can sign up through [Happen, Inc.](http://www.happeninc.org) but they must go to Happen, Inc. to get their box and deposit their child’s samples.

Please visit the [Happen, Inc.](http://www.happeninc.org) website for more information.

Select for [Hitachi STEM](#) information.

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