

The BARNUM MUSEUM



Always Revolutionary

Quinnipiac University students help their professor uncover internal problems with historic artifacts from The Barnum Museum

On Oct. 16, [Quinnipiac University](#) (QU) Professor Jerry Conlogue brought the first of his students to The Barnum Museum in Bridgeport to take part in a unique volunteer opportunity to provide a way of looking inside some of the museum's 25,000 artifacts. The students, Kristen Gonsalves and Katelyn D'Alleva, are enrolled in Conlogue's Radiation Physics and Instrumentation course. During the past few months others in this course have had the same type of experience. The project concludes at the museum this Friday, Nov. 30. Conlogue was joined by other Diagnostic Imaging Program faculty members including professors Bill Hennessy and Natalie Pelletier and adjunct professor Bob Lombardo.

The students are using "hands on, old school" imaging techniques instead of the high tech equipment that the students would normally encounter in a typical clinical setting. Instead, they are using various types of film and film holders to record the images. Their studies also included transforming one of the museum's restrooms into a darkroom, for immediate, on-site processing of the film.

For this research, the x-ray tube is not mounted on a traditional stand, but rather supported using everyday objects such as milk crates and chairs. This teaches the students to be resourceful in a field setting and to consider the basic principles of radiography by thinking "outside the box" to produce quality images.

On Nov. 30, the last two students, Alexandra Fitzgerald and Sara Smith will be at the museum starting at 9 a.m. to conclude this diagnostic imaging program by examining two nearly identical ignition switches, one labeled LOCOMOBILE and the other ROLLS ROYCE, both from luxury cars dating to the early 20th century. Using these "old school" x-ray techniques, they hope to discover the differences between these two old auto switches that were manufactured in Bridgeport.

Adrienne Saint-Pierre, The Barnum Museum's Collections Manager, selected some objects with historical value to the industrial history of Bridgeport, such as an early 20th-century gramophone and a 19th-century telephone, as well as a few ethnographic artifacts and biological specimens, acquired or donated in the 1890s to the then-Bridgeport Scientific Society. Some of the specific artifacts examined have included: an Inuit flask sewn of animal skins, an item far too delicate to be opened and the results where that nothing was left inside; a Tibetan prayer wheel which revealed the turning mechanism inside; a horned toad in a glass jar which was about 125 years old and so desiccated that the museum staff could not confirm its identity by sight, yet the x-rays revealed quite clearly the skeleton of a toad.

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Two of the other students in Conlogue's course, Julianna Lupo and Maiquynh Truong went to [Kubtec](#) in Milford on Nov. 9 where they used a state-of-the-art x-ray cabinet system that is intended to produce high resolution images of specimens. However, instead of pathologic specimens, the students acquired images of various small objects such as a tiny bird skull and peppers that were in different stages of drying. The latter simulated tissues that had different water contents. The challenge was to produce quality images of different objects for which the equipment was not specifically designed to image as a way to uncover unknown facts about the condition inside.

"Hopefully, the images acquired during the students' visits will be used in future exhibitions," explained Professor Conlogue, "This project has also expanded QU's relationships with private business. Kubtec has made their facility available to us on a number of occasions. In return, we can provide them with a variety of different types of material to image that they can use to promote their products."

"I really want to emphasize how grateful we at QU are to Kubtec and The Barnum Museum for allowing us this unique educational opportunity," concluded Conlogue.

Kathy Maher, Executive Director of The Barnum Museum, explained, "It is very important for us to understand our collection from the inside whenever possible, because this helps us know how to best preserve and conserve delicate and intricate objects. These x-ray results will also help us explore new ways to interpret the museum's collection, and by using images in the exhibitions, we can give our visitors intriguing ways to understand objects on display."

Gerald (Jerry) Conlogue is professor of diagnostic imaging in the School of Health Sciences at Quinnipiac University in Hamden, CT; a member of the American Academy of Forensic Sciences; a research associate for the Museum of London and Co-Director and Co-Founder of the [Bioanthropology Research Institute](#).

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To learn more about The Barnum Museum's current *Recovery in Action* exhibition and programs visit: barnum-museum.org or call 203-331-1104. You can also visit them on Facebook, view past programs at barnummuseumexhibitions.org or communicate on Twitter @BarnumMuseum.

For more information on Kubtec visit kubtec.com or the blog created by Professor Conlogue on their website: <http://kubtec.com/2012/08/mummies-other-x-ray-imaging-uses/>. Interested individuals can also search Bioanthropology on Facebook to join on line conversations with others on this topic.

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