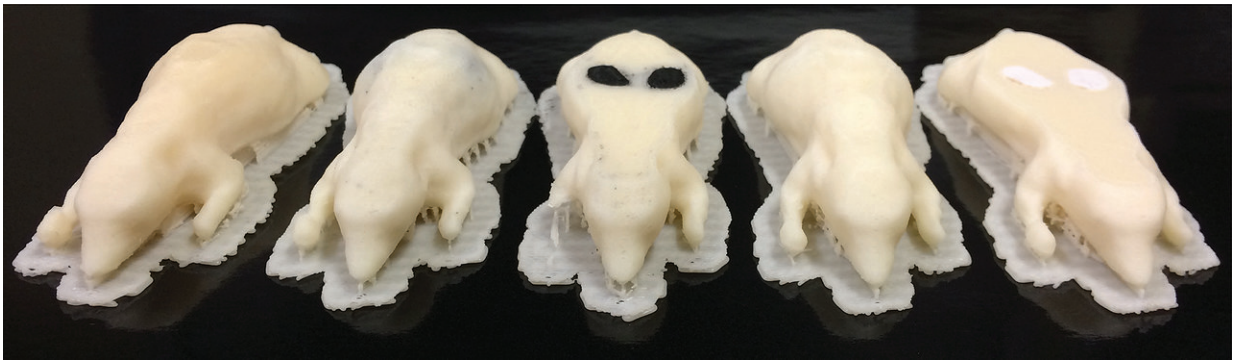


Using 3-D printers to create medical imaging phantoms

August 30 2018, by Brian Bentz



Purdue University researchers developed a method to use 3D printers to create medical imaging phantoms. Credit: Purdue University

Purdue University researchers have devised a way to use 3-D printers to ensure that medical imaging techniques offer the best performance.

The Purdue researchers developed a method to use 3-D printers to create optical phantoms, which are objects that are scanned or imaged to evaluate, analyze and tune the performance of imaging devices. The phantoms could be adapted for many imaging techniques.

Phantoms are more readily available and provide more consistent results than the use of a person or cadaver. Most phantoms are made using injection mold methods, which limit the shape of the phantoms to the

mold geometry.

"We wanted to find a better way to create the phantoms that are used with imaging machines," said Brian Bentz, a Purdue alumnus and Starfish Engineering LLC's chief executive officer, who worked on the technology with Kevin Webb, a professor of electrical and computer engineering at Purdue. "3-D printing is fast and allows us to create complex phantoms with various shapes to ensure the best possible performance for imaging devices."

Purdue's technology allows developers to create phantoms with optical properties designed to match those of biological tissues, providing a better way to ensure that machines are correctly calibrated.

Hospitals are required to calibrate and test their imaging machines on a regular basis to ensure that they remain at peak performance.

"It is a great feeling to take our engineering expertise and combine that with technology to potentially help patients suffering from many different kinds of diseases," Bentz said.

Provided by Purdue University

Citation: Using 3-D printers to create medical imaging phantoms (2018, August 30) retrieved 11 May 2024 from <https://medicalxpress.com/news/2018-08-d-printers-medical-imaging-phantoms.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--