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Research article: A 3D-printed modular device for imaging the brain of small birds

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Highlights

- *In vivo* CT, PET and MRI imaging of any new species requires new equipment
- We describe the design and use of a 3D-printed device for imaging the songbird brain
- Use of this device significantly improved positional reproducibility of the head
- 3D-printed materials are also imaging-compatible and fast and inexpensive to make
- Researchers can use our design and CAD models for fabricating their own devices

Abstract

Background: One potential barrier to using *in vivo* imaging in any new animal species is solving the basic problem of how to hold animals safely and securely during scans.

New Method: In this paper, we describe the design, fabrication, use, and positional reproducibility of a 3D-printed plastic device (the Avian Imaging Device, or AID) for imaging the brain of 1 or 2 small songbirds. We designed two different types of head cones to use with

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