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Authors: Christine R. Lattin, Maxwell A. Emerson, Jean-Dominique Gallezot, Tim Mulnix, J. Elliott Brown, Richard E. Carson

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

Christine R. Lattin[1*], Maxwell A. Emerson[2*], Jean-Dominique Gallezot[1], Tim Mulnix[1], J. Elliott Brown[1], Richard E. Carson[1]

[1] Department of Radiology and Biomedical Imaging, Yale University, New Haven, CT, USA

[2] Yale Center for Engineering, Innovation & Design, Yale University, New Haven, CT, USA

*Corresponding author.

Email: christine.lattin@yale.edu. Phone: (203) 785-5054. Fax: (203) 785-3107.

Address: Positron Emission Tomography Center, Yale University, 801 Howard Avenue, PO Box 208048, New Haven, CT 06520-8048, USA

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