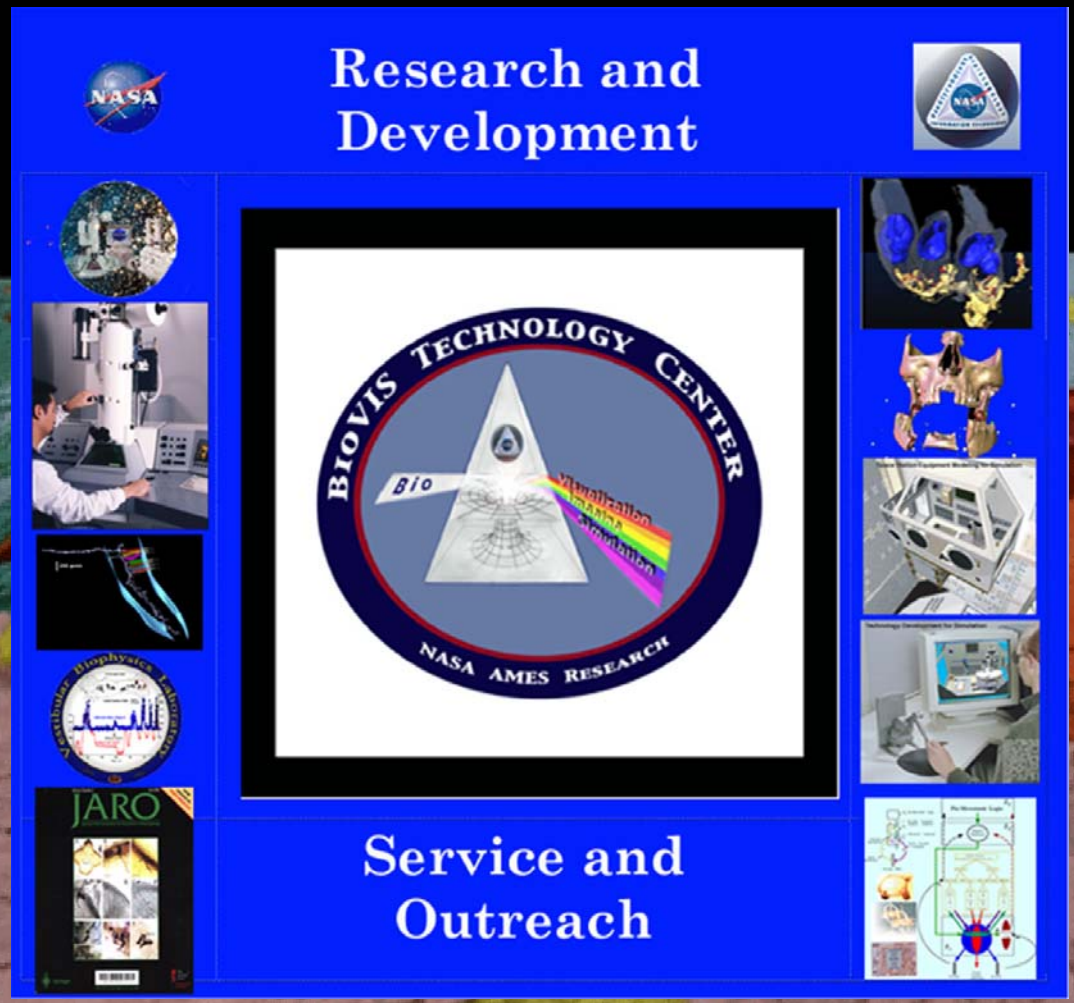
Bio-Visualization, Imaging and Simulation Technology Center (BioVIS)

Dedicated to biology research and development of advanced visualization, imaging and simulation/computation technologies to support the objectives of NASA Life Sciences and Fundamental Space Biology Programs

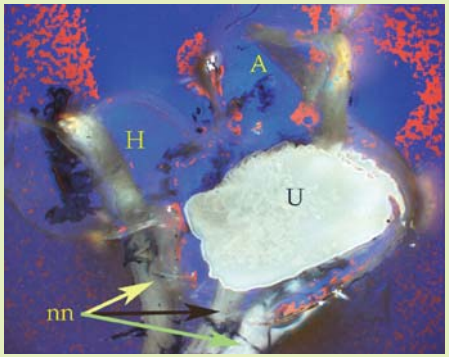


Richard Boyle
Director

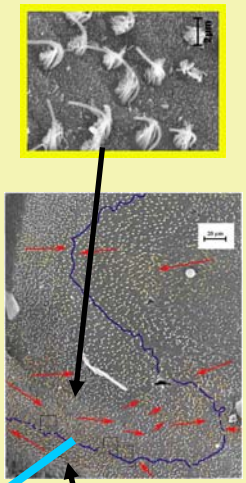
Image Guided Intervention workshop/May 13-14 2004/Washington DC

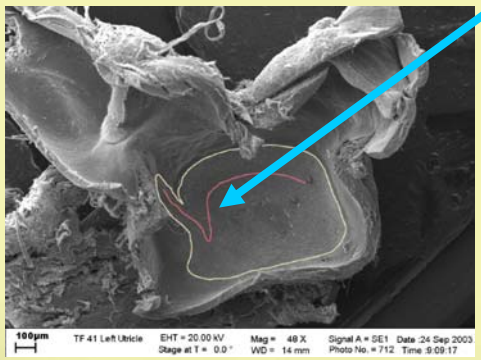
Structure and Function of Vestibular Otolith Organs

Ames Research Center • BioVIS Technology Center • Space Life Sciences Research Branch



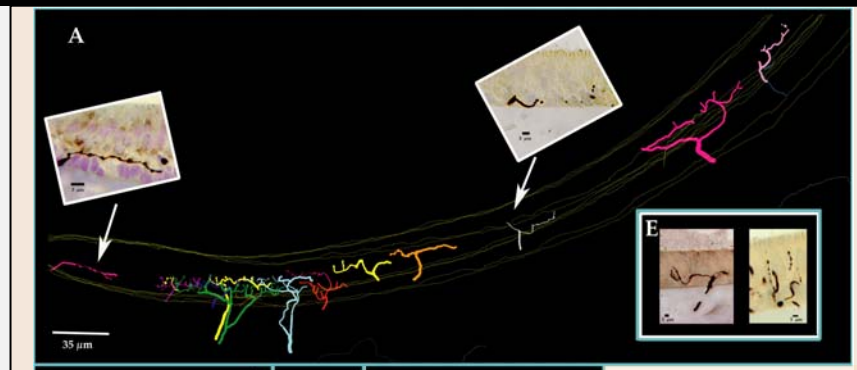
Utricle (U), horizontal (H) and anterior canal (A) cristae, and the afferent nerve supply (nn)



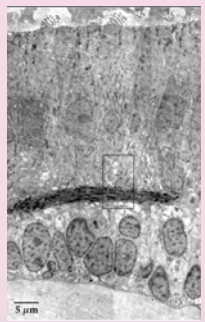


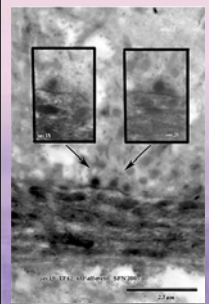
Arrows point along axis of shortest stereocilia towards the kinocilium

Hair Cell Morphological Polarization on Macula

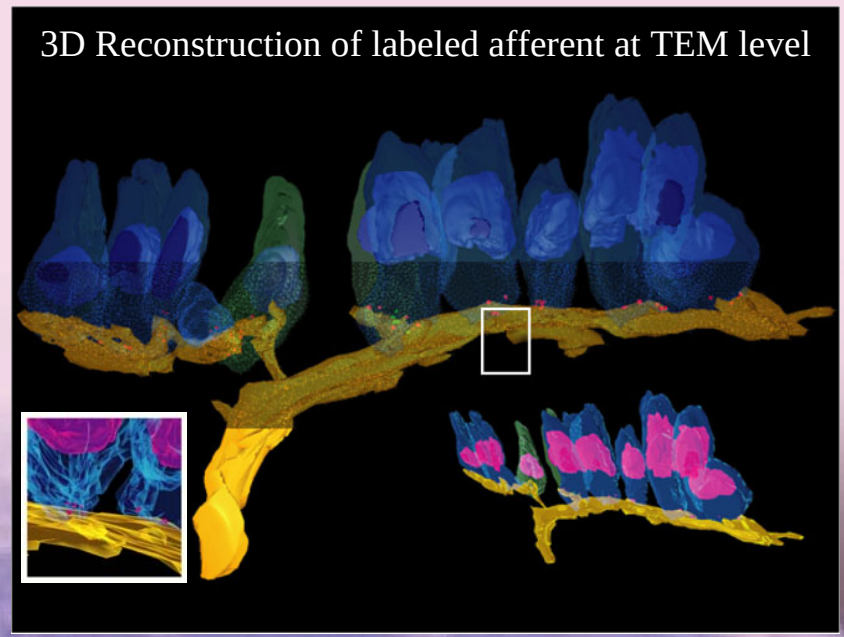


Computer-assisted 3D reconstruction of utricular afferents innervation pattern in the macula.





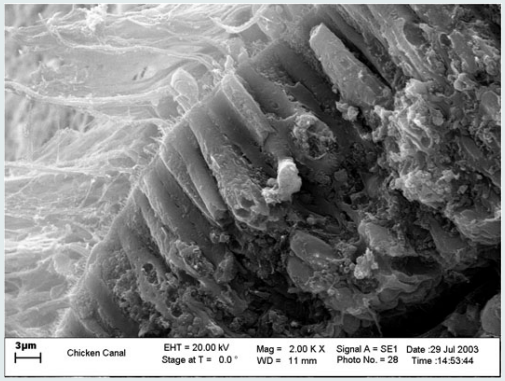
3D Reconstruction of labeled afferent at TEM level



Remote Scanning Electron Microscopy Facility and Collaborations

Ames Research Center • BioVIS Technology Center • Space Life Sciences Research Branch

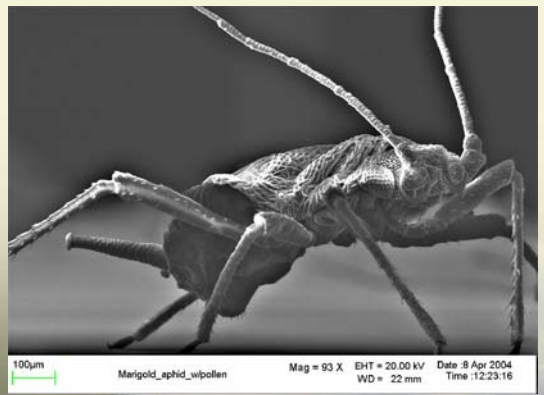
Collaboration with NIH/NIDCD



Fractured anterior semicircular canal crista ampullaris in developing chick

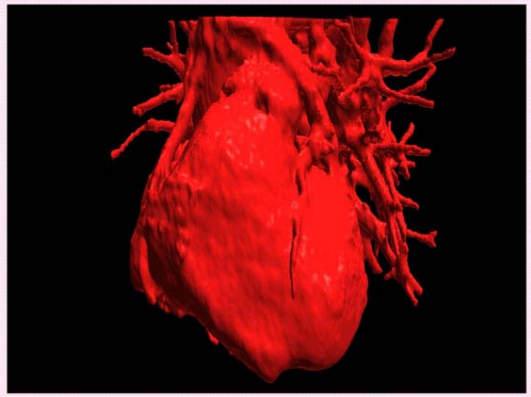
Educational Outreach:

Oakland-Emiliano Zapata Street Academy

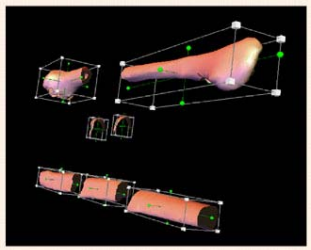


Pollen vectors - aphid

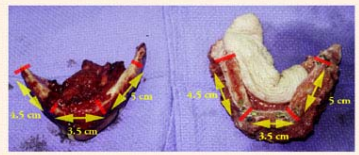
Stanford University

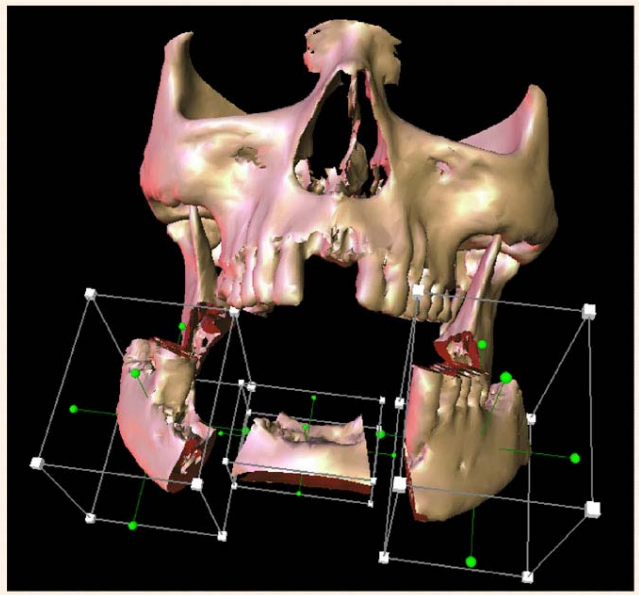


3D Model of Human Heart after double bypass surgery >2M polygons



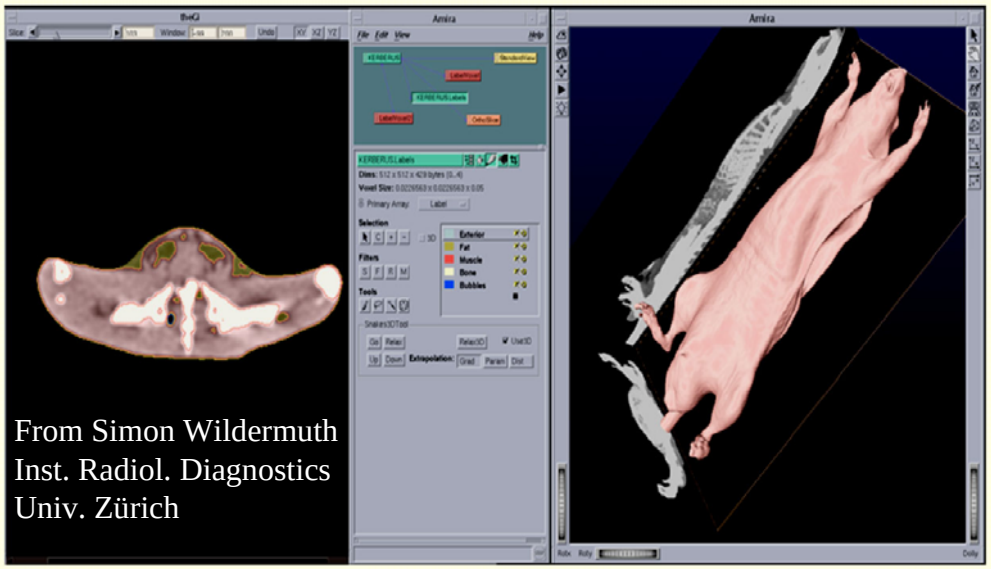
Mandibular reconstruction



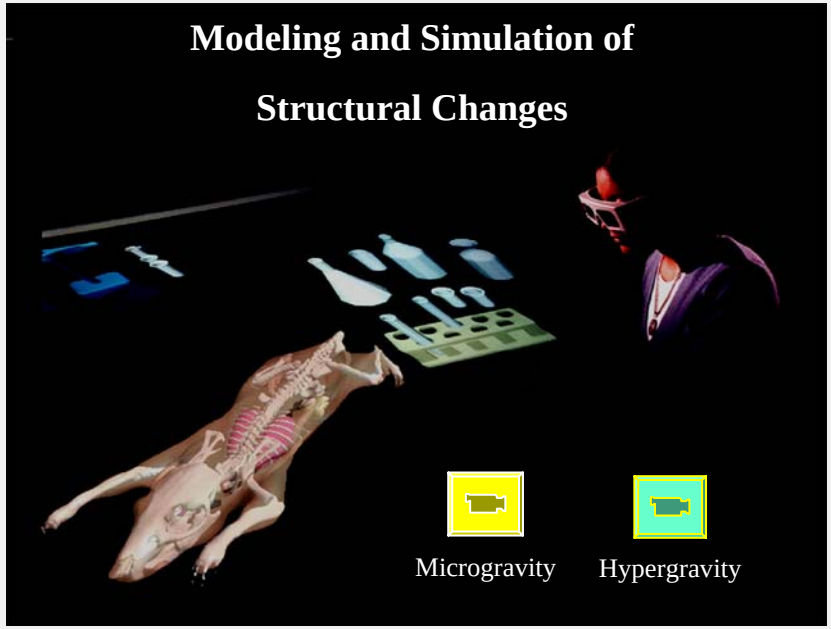


NASA Digital Animal Project

Ames Research Center • BioVIS Technology Center • Space Life Sciences Research Branch



3D whole body scans from high-resolution CT scans of anesthetized animals.



Virtual GloveboX Project: Provide an immersive, reach-in, and distributed virtual environment simulation system For procedure development and astronaut training to enhance and speed time-to-flight for biology experiments and realistic on-orbit training/refresher opportunities to ISS crew