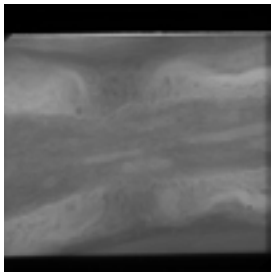
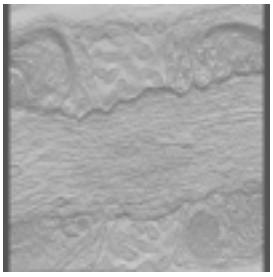
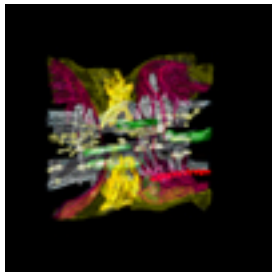
Cell Centered Database

University of California, San Diego

Maryann Martone

Microscopy Product #:48 con_node

For the most updated information, please visit
http://ccdb.ucsd.edu/CCDBWebSite/main?event=displaySum&mpid=48

Image2D	Reconstruction	Segmentation
		

Project Information:

PROJECT_ID	P1136
PROJECT_NAME	Dynamics of membrane organization at the node of Ranvier
PROJECT_DESCRIPTION	Serial tomogram of a conventionally prepared peripheral nerve Node of Ranvier
LEADER	Mark Ellisman, Gina Sosinsky
FUNDING_AGENCY	NIH NINDS
PROJECT_START_DATE	1995-08-01 00:00:00.0
PROJECT_END_DATE	2006-06-30 00:00:00.0
COLLABORATORS	N.A
PUBLICATION1	Gina E.Sosinsky;Thomas J.Deerinck;Rocco Greco;Casey H. Buitenhuys;Thomas M.Bartol and Mark H. Ellisman.Development of a model for microphysiological simulations: small nodes of ranvier from peripheral nerves of mice reconstructed by electron tomography. Neuroinformatics. 2005;3(2):133-62. PMID: 15988042
PUBLICATION2	
PUBLICATION3	

Experiment Information -	
PURPOSE	Structure and modeling
TITLE	Serial section electron tomography
EXPERIMENTER	Gina Sosinsky, Tom Deerinck
EXPERIMENT_NAME	
EXPERIMENT_DATE	1999-12-15 00:00:00.0

Subject Information -	
GROUP_BY	
SUBJECT_NAME	NA
FIXATION_METHOD_ID	
SCIENTIFIC_NAME	mus musculus
SPECIES	mouse
STRAIN	Unspecified
AGE	3 days
AGECLASS	neonate
ANIMAL_NAME	
LITTER_ID	
SEX	male
VENDOR	
WEIGHT	

Tissue -	
ANATOMIC_LOCATION	dorsal root
MICROTOME	Leica Ultracut UCT
ORIENTATION	longitudinal sec
THICKNESS	.5 um
TISSUE_PROD_STORAGE	Processed directly
EXTERNAL_FILE_NAME	
TISSUE_GROUP_TYPE	

Microscopy Product Information -	
MICROSCOPY_PRODUCT_ID	48
IMAGE_BASENAME	con_node
CREATE_DATE	1999-12-15 00:00:00.0
INSTRUMENT	JEOL 4000
MICROSCOPE_TYPE	IVEM
PLANE_COUNT	
PRODUCT_TYPE	single tilt
PURL	NA
SESSION_NAME	
TELESCIENCE_SRB	P1136/Experiment_28/Subject_29/Tissue_39/Microscopy_48
X_RESOLUTION	50 nm
Y_RESOLUTION	50 nm
XSIZE	800
YSIZE	1000

Protocol:

N/A

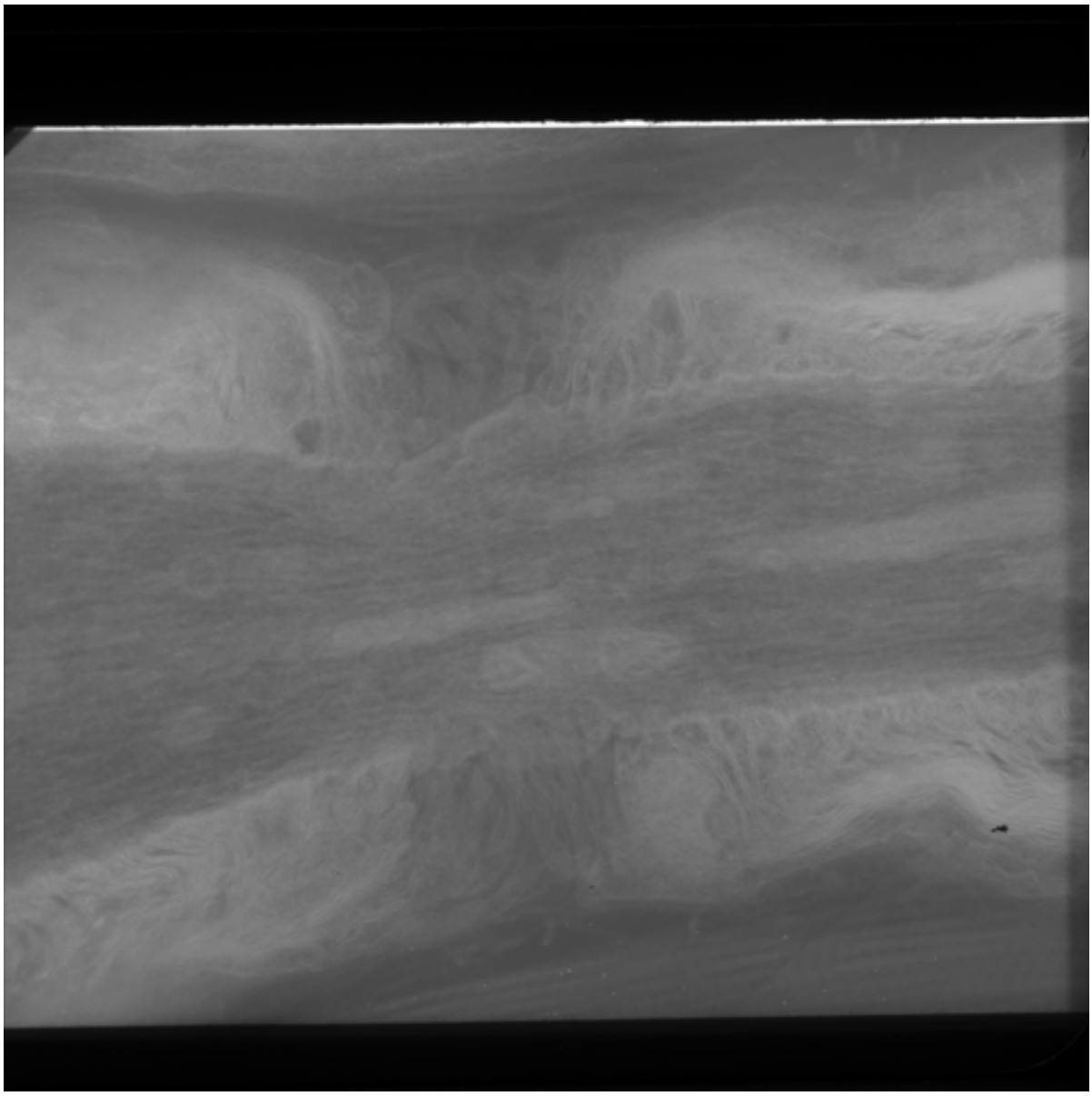
Image Type -	
SINGLE_TILT_IMAGE_SEQ_ID	15
TILT_INCREMENT	2 degrees
SINGLETILTIMAGESEQ_ID	15
TILT_INCREMENT	2 degrees
RANGE_MAX	60 degrees
RANGE_MIN	-60 degrees

Specimen Description -	
ANATOMICAL_DETAIL	48
ATLAS_COORD	, ,
CELL_TYPE	Schwann cell
REGION	sciatic nerve
STRUCTURE	Node of Ranvier
SYSTEM	peripheral nervous system
TISSUE	peripheral nerve

Electron Microscopy Product -	
EM_PRODUCT_ID	15
ACCELERATING_VOLTAGE	400 KeV
EMBEDDING_MEDIUM	resin
MAGNIFICATION	20000
RECORDING_MEDIUM	film

Raw 2D Image

Raw Low Resolution 2D Image -



Raw 2D Image -	
IMAGE2D_ID	48
IMAGE_DESC	tar file containing tilt images from 3 serial tilt series
IMAGE_FILE_NAME	P1136GINA/con_node/con_node_img.jpg
RAW_DATA_FILE	P1136GINA/con_node/con_node_img.tar
THUMBNAIL_DESC	Single tilt image (zero degree tilt) from the second of 3 serial single tilt series through the Node of Ranvier
THUMBNAIL_FILE	P1136/con_node_img_thmb.jpg

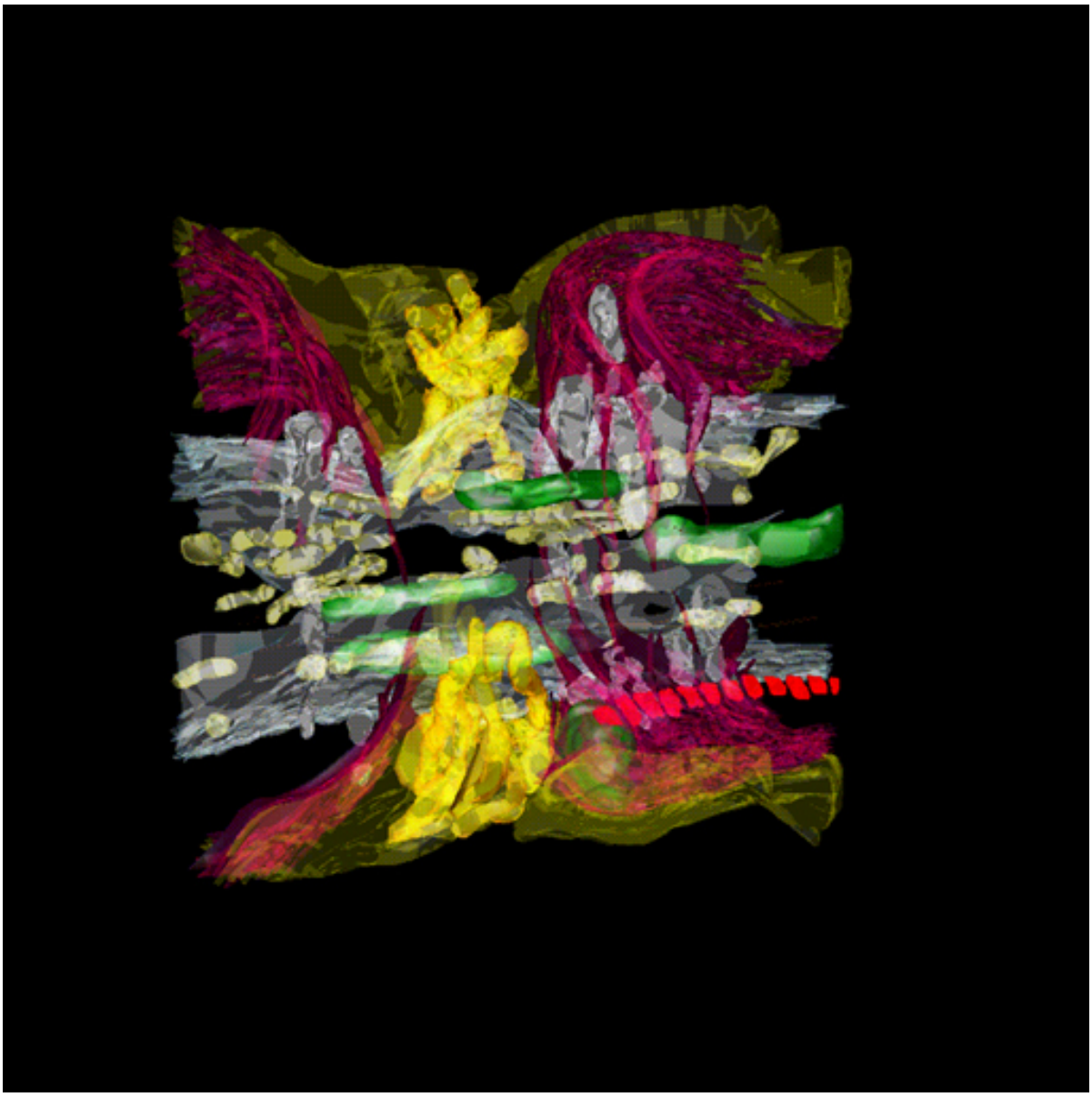
Reconstruction

Reconstruction Image -

Reconstruction -	
RECONSTRUCTION3D_ID	48
ALIGNMENT_METHOD	Suprim
ALIGNMENT_PROGRAM	Suprim
BASENAME_ORIGFILE	NA
CROPPING_COORDINATE1	,
CROPPING_COORDINATE2	,
RECON_ALGORITHM	R-weighted back projection
RECON_DATE	2000-01-11 00:00:00.0
RECON_DESC	Tar file containing merged volume of a serial tomogram of a peripheral nerve node of Ranvier in Analyze 7.5 format
RECON_PROGRAM	Suprim, IMOD
RECON_TYPE	double tilt electron tomography
THUMBNAIL	P1136/con_node_vt.jpg
VOLUME_DIMENSION	611, 611, 299
VOLUME_NAME	P1136GINA/con_node/con_node_vol.tar
VOXEL_SCALE	.01, .01, .015
RECONSTRUCTION_IMAGES_ID	48
RECON_IMAGE_DESC	Single slice through a single tilt tomogram of the Node of Ranvier from mouse sciatic nerve
RECON_FILE_NAME	P1136GINA/Conventional_node.jpg
VOLUME_THUMBNAIL	P1136/con_node_vt.jpg
IMAGE_BASENAME	con_node
EMAIL	gina@ncmir.ucsd.edu
OWNER	Gina Sosinsky
PUBLICATION	Gina E.Sosinsky;Thomas J.Deerinck;Rocco Greco;Casey H. Buitenhuys;Thomas M.Bartol and Mark H. Ellisman. Development of a Model for Microphysiological Simulations: Small Nodes of Ranvier from Peripheral Nerves of Mice Reconstructed by Electron Tomography. Neuroinformatics. 2005. ISSN 1539-2791/05/1-30
ANIMATION_DESC	Slices through tomographic reconstruction and segmentation and renderings of serial tomogram of the node

Segmentation

Segmentation Image -



Segmentation -	
SEGMENTED_OBJECT_ID	197
DOWNLOADABLE_FILE_DESC	Tar file containing the surfaced objects in Synu format (*.synu) and the Viewdata file required for viewing using Synuview. The original trace file (*.trace) containing the manual contours and selected images of surface renderings are also included.
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	P1136GINA/con_node/con_node_seg.jpg
SEGMENTED_OBJECT_ID	197
SEGMENT_PERSON_NAME	Rocco Grecco
SEG_DESC	Manual segmentation of neuronal and glial components of the Node of Ranvier using Xvoxtrace. Objects were surfaced using Synu.
SEG_FILE_NAME	P1136GINA/con_node/con_node_seg.zip
THUMBNAIL	P1136/con_node_seg_thmb.jpg

USER AGREEMENT

Data Sharing and Citation Policy: The mission of the CCDB is to promote data sharing among scientists interested in cellular and subcellular anatomy and in developing computer algorithms for 3D reconstruction and modeling of such data. Data sets may be viewed or shared at the discretion of the author of the data. In some cases, the data may be freely viewed and downloaded without contacting the original author while in other cases, permission of the author may have to be obtained prior to downloading the data. In either case, failure to cite or give proper credit to the original authors who collected these data in subsequent published articles or presentations is a material breach of this User Agreement. CCDB requires all researchers re-analyzing these published data via the CCDB access to reference the original published article and the CCDB. An example of an appropriate acknowledgement is provided on the CCDB web site. CCDB is not in a position to police every intended use of these data. The scientific community will self-police the compliance of this contractual obligation.

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USER NOTIFICATION

For large size image data, it will take several minutes to download, please be patient. Thanks!

ACKNOWLEDGEMENT

Data used from the CCDB should be appropriately referenced, including both the author of the data and the CCDB. If the data were from a published study, the reference is included in the database record. The following reference should be cited for the CCDB:

Martone, M. E., Gupta, A., Wong, M., Qian, X., Sosinsky, G., Ludaescher, B., and Ellisman, M. H. A cell centered database for electron tomographic data. J. Struct. Biology 138: 145-155, 2002.

In addition, the support for the Cell Centered Database should be included in the acknolwedgement section of any publication:

The Cell Centered Database is supported by NIH grants from NCRR RR04050, RR RR08605 and the Human Brain Project DA016602 from the National Institute on Drug Abuse, the National Institute of Biomedical Imaging and Bioengineering and the National Institute of Mental Health, and NSF grants supporting the National Partnership for Advanced Computational Infrastructure NSF-ASC 97-5249 and MCB-9728338.

Maryann Martone