

# Cell Centered Database

University of California, San Diego

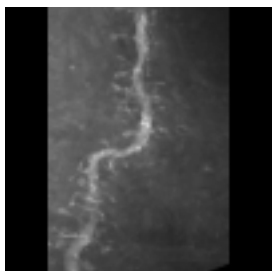
Maryann Martone

Microscopy Product #:12 osaka3

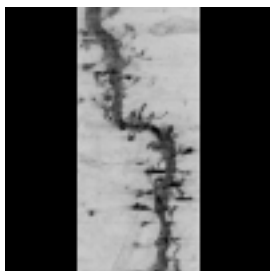
For the most updated information, please visit

<http://ccdb.ucsd.edu/CCDBWebSite/main?event=displaySum&mpid=12>

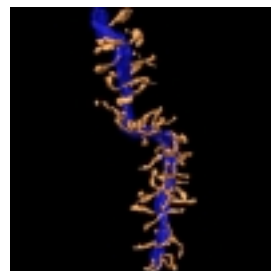
Image2D



Reconstruction



Segmentation



## Project Information:

PROJECT_ID	P1119
PROJECT_NAME	Correlated Microscopy of Dendritic Spines
PROJECT_DESCRIPTION	Measurements of spine parameters using light microscopy and electron tomography
LEADER	<a href="#">Maryann Martone</a>
FUNDING_AGENCY	NIH
PROJECT_START_DATE	1992-01-01 00:00:00.0
PROJECT_END_DATE	
COLLABORATORS	Naoko Yamada; Gordun Arbuthnott; Cali Ingham; Stephen Young
PUBLICATION1	
PUBLICATION2	
PUBLICATION3	

Experiment Information -	
PURPOSE	whether 3MeV can be used for tomography of very thick sections
TITLE	Tomography of spiny dendrite at 3 MeV
EXPERIMENTER	Naoko Yamada
EXPERIMENT_NAME	
EXPERIMENT_DATE	

Subject Information -	
GROUP_BY	
SUBJECT_NAME	control
FIXATION_METHOD_ID	
SCIENTIFIC_NAME	rattus norvegicus
SPECIES	rat
STRAIN	Sprague Dawley
AGE	
AGECLASS	adult
ANIMAL_NAME	
LITTER_ID	
SEX	unspecified
VENDOR	
WEIGHT	

Tissue -	
ANATOMIC_LOCATION	neostriatum
MICROTOME	ultramicrotome
ORIENTATION	coronal
THICKNESS	4 um
TISSUE_PROD_STORAGE	
EXTERNAL_FILE_NAME	
TISSUE_GROUP_TYPE	

Microscopy Product Information -	
MICROSCOPY_PRODUCT_ID	12
IMAGE_BASENAME	osaka3
CREATE_DATE	2000-01-31 00:00:00.0
INSTRUMENT	Hitachi UHVEM
MICROSCOPE_TYPE	UHVEM
PLANE_COUNT	
PRODUCT_TYPE	single tilt
PURL	NA
SESSION_NAME	osaka3/osaka3.jpg
TELESCIENCE_SRB	P1119/Experiment_9/Subject_9/Tissue_10/Microscopy_12
X_RESOLUTION	
Y_RESOLUTION	
XSIZE	1024
YSIZE	1024

## Protocol:

N/A

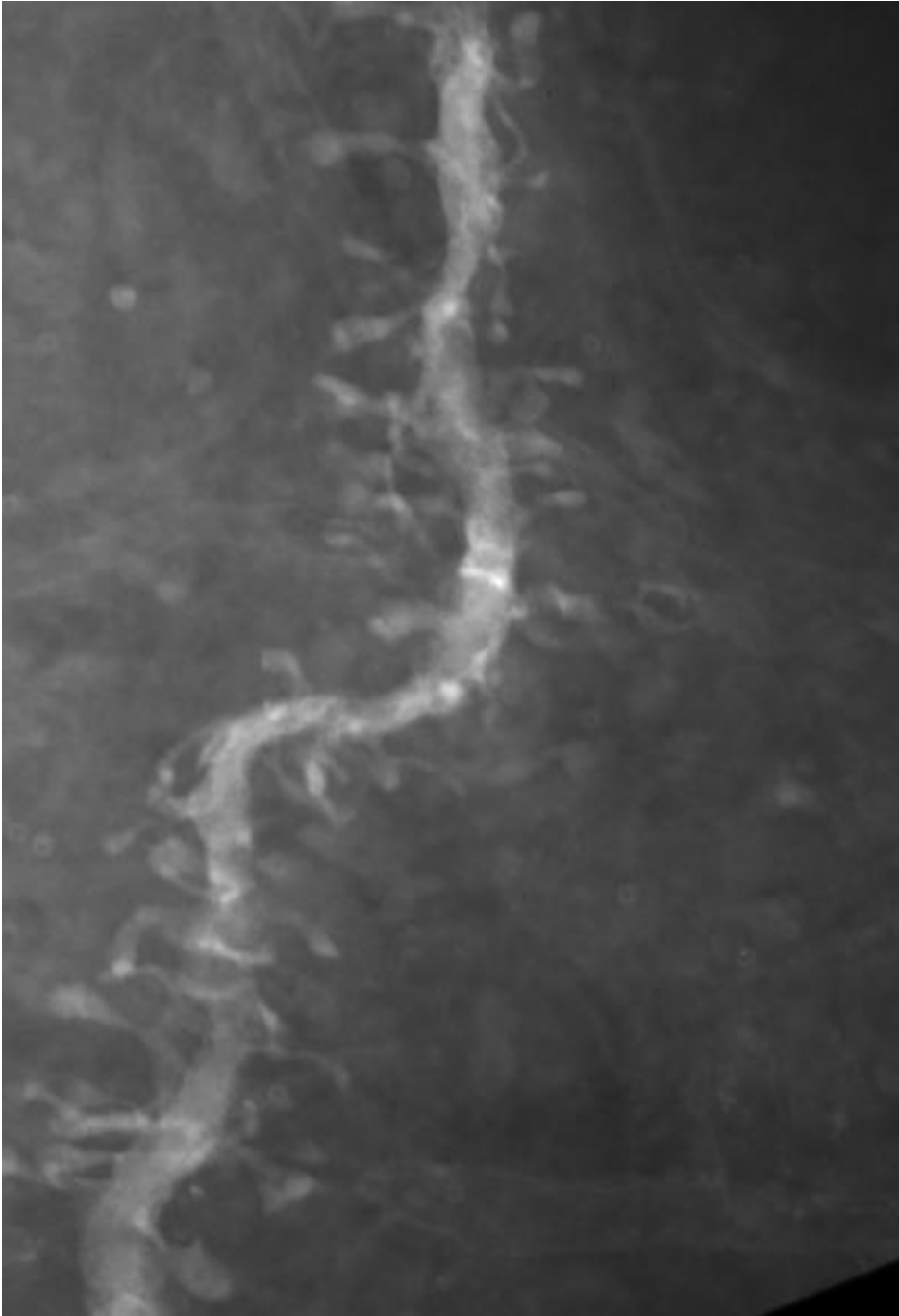
Image Type -	
SINGLE_TILT_IMAGE_SEQ_ID	1
TILT_INCREMENT	2 degrees
SINGLE_TILT_IMAGE_SEQ_ID	1
TILT_INCREMENT	2 degrees
RANGE_MAX	70 degrees
RANGE_MIN	-66 degrees

Specimen Description -	
ANATOMICAL_DETAIL	12
ATLAS_COORD	, ,
CELL_TYPE	medium spiny neuron
ORGAN	brain
REGION	neostriatum
STRUCTURE	spiny dendrite
SYSTEM	central nervous system

Electron Microscopy Product -	
EM_PRODUCT_ID	1
ACCELERATING_VOLTAGE	3 MeV
MAGNIFICATION	3000
RECORDING_MEDIUM	film

# Raw 2D Image

Raw Low Resolution 2D Image -



Raw 2D Image -	
IMAGE2D_ID	12
IMAGE_DESC	Tar file containing unaligned compressed tilt images (*.f.gz) and the aligned, cropped images (*.crop) in Suprim format. The fiducial mark file (osaka3.fido) and origin file (osaka3.fido.origin) used to align the tilt images using the program Xfido are also included.
IMAGE_FILE_FORMAT	tar
IMAGE_FILE_NAME	osaka3/osaka3_img.jpg
MAGNIFICATION	3000
RAW_ANIMATION_DESC	Animation through the aligned tilt series
RAW_ANIMATION_FILE	osaka3/osaka3_img.qt
RAW_DATA_FILE	osaka3/osaka3_img.tar
THUMBNAIL_DESC	Zero tilt image from a single tilt series through a 4 ?m thick section of a medium spiny neuron dendrite that has been intracellularly injected and photooxidized
THUMBNAIL_FILE	P1119/osaka3_rt.jpg

# Reconstruction

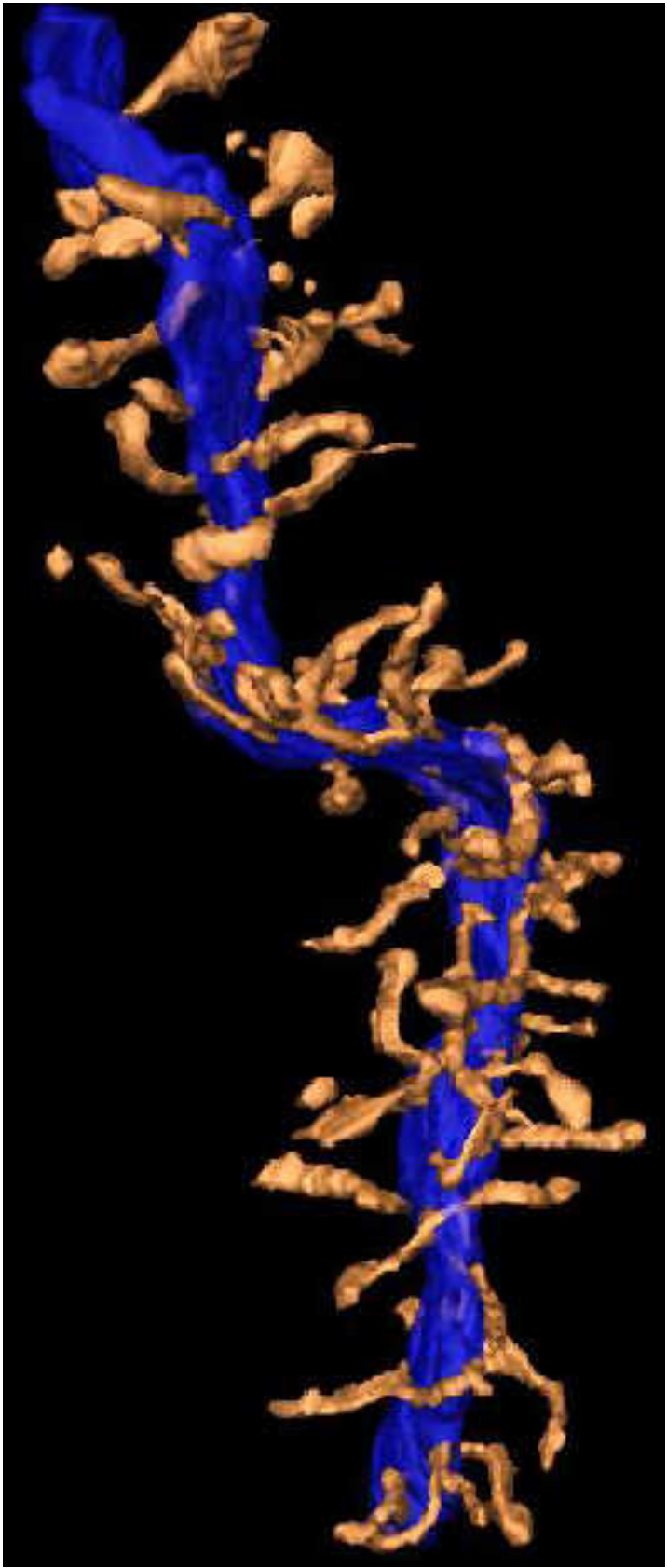
Reconstruction Image -



Reconstruction -	
RECONSTRUCTION3D_ID	12
CORRELATED_VOLUME_NAME	oka4_vol.tar
CROPPING_COORDINATE1	,
CROPPING_COORDINATE2	,
RECON_ALGORITHM	R-weighted back projection
RECON_DATE	2001-07-06 00:00:00.0
RECON_PROGRAM	Suprim
RECON_TYPE	single tilt electron tomography
THUMBNAIL	P1119/osaka3_vt.jpg
VOLUME_DIMENSION	270, 586, 154
VOLUME_NAME	osaka3/osaka3_vol.tar
VOXEL_SCALE	.022, .022, .022
RECONSTRUCTION_IMAGES_ID	12
RECON_IMAGE_DESC	Maximum intensity projection of a tomographic reconstruction of stained dendrite from rat neostriatum in a 4 um section.
RECON_FILE_NAME	osaka3/osaka3.vol.jpg
VOLUME_THUMBNAIL	P1119/osaka3_vt.jpg

# Segmentation

Segmentation Image -





Segmentation -	
SEGMENTED_OBJECT_ID	12
DOWNLOADABLE_FILE_DESC	Tar file containing original trace file with manual contours (osaka3.trace) produced by Xvoxtrace v 2.9 and the surface renderings of the dendritic shaft (shaft.synu) and the population of dendritic spines (spine.synu) in Synu format, along with the Viewdata file required for viewing with Synuview.
IS_MANUAL	y
LENGTH	15 um
NUMBER_OF_OBJECT	1
OBJECT_DESC	dendritic shaft
OBJECT_NAME	shaft.synu
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	osaka3/osaka3.jpg
SEGMENTED_OBJECT_ID	12
SEGMENT_PERSON_NAME	Naoko Yamada
SEG_DESC	manual segmentation using Xvoxtrace; surfaced with Synu
SEG_FILE_NAME	osaka3/osaka3_seg.tar
THUMBNAIL	P1119/osaka3_st.jpg
TRACE_FILE	osaka3/osaka3.trace
SEGMENTED_OBJECT_ID	13
DOWNLOADABLE_FILE_DESC	Tar file containing original trace file with manual contours (osaka3.trace) produced by Xvoxtrace v 2.9 and the surface renderings of the dendritic shaft (shaft.synu) and the population of dendritic spines (spine.synu) in Synu format, along with the Viewdata file required for viewing with Synuview.
IS_MANUAL	y
NUMBER_OF_OBJECT	61
OBJECT_DESC	dendritic spines
OBJECT_NAME	spines.synu
OBJECT_TYPE	surface
SEGMENTED_OBJ_2D_IMAGE	osaka3/osaka3.jpg
SEGMENTED_OBJECT_ID	13
SEGMENT_PERSON_NAME	Naoko Yamada
SEG_DESC	manual segmentation using Xvoxtrace; surfaced with Synu
SEG_FILE_NAME	osaka3/osaka3_seg.tar
THUMBNAIL	P1119/osaka3_st.jpg
TRACE_FILE	osaka3/osaka3.trace

## **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.

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Maryann Martone