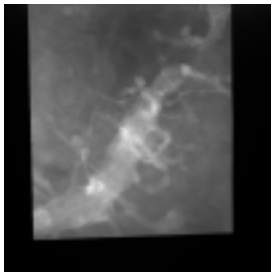
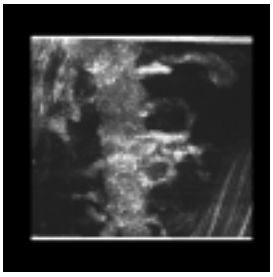
Cell Centered Database

University of California, San Diego

Maryann Martone

Microscopy Product #:27 osaka4

For the most updated information, please visit
http://ccdb.ucsd.edu/CCDBWebSite/main?event=displaySum&mpid=27

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	Maryann Martone
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	27
IMAGE_BASENAME	osaka4
CREATE_DATE	
INSTRUMENT	Hitachi UHVEM
MICROSCOPE_TYPE	UHVEM
PLANE_COUNT	
PRODUCT_TYPE	single tilt
PURL	NA
SESSION_NAME	osaka4/osaka4_seg.jpg
TELESCIENCE_SRB	P1119/Experiment_9/Subject_9/Tissue_20/Microscopy_27
X_RESOLUTION	.007 um
Y_RESOLUTION	.007 um
XSIZE	1024
YSIZE	1024

Protocol:

N/A

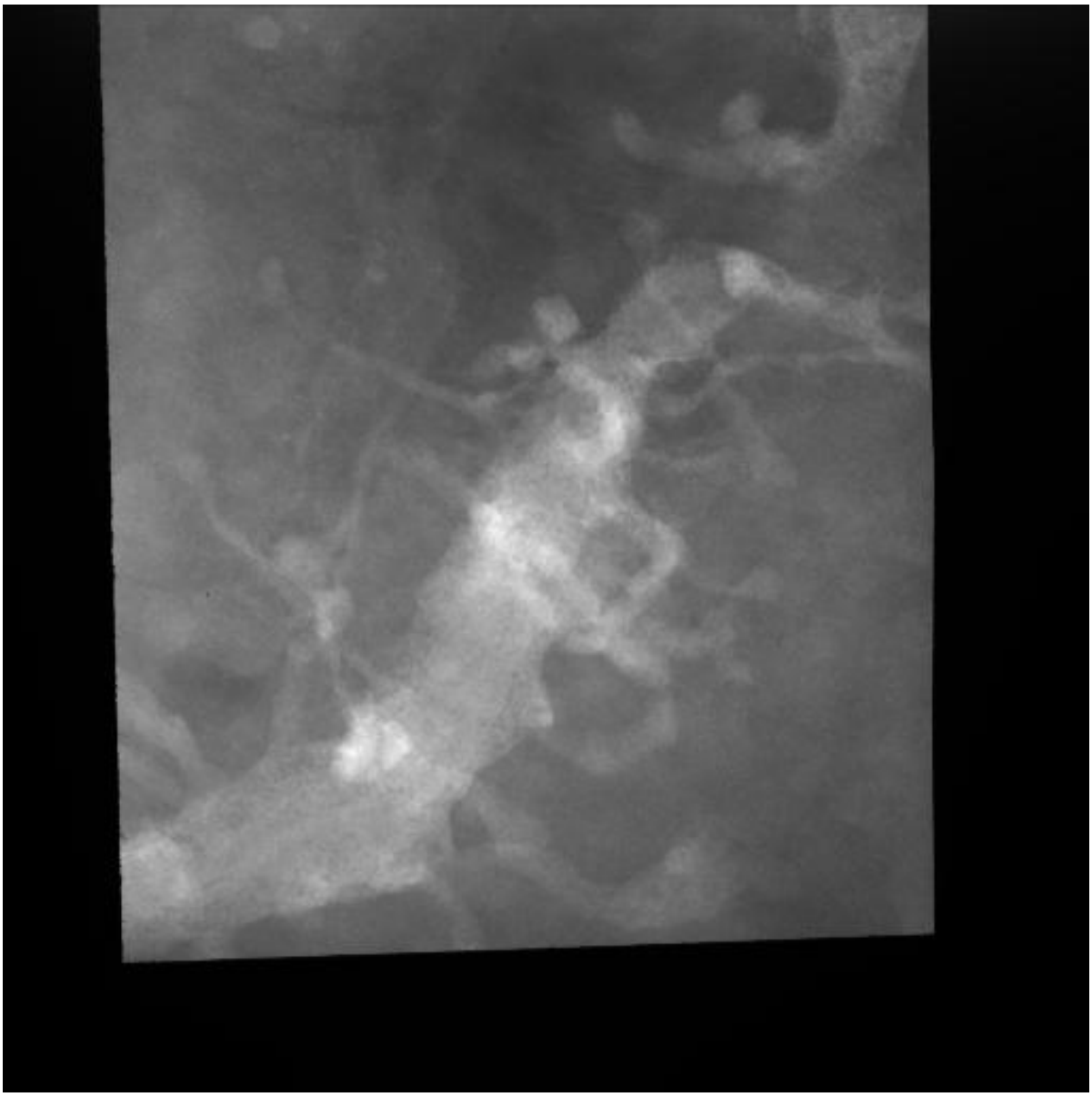
Image Type -	
SINGLE_TILT_IMAGE_SEQ_ID	7
TILT_INCREMENT	2 degrees
SINGLETILTIMAGESEQ_ID	7
TILT_INCREMENT	2 degrees
RANGE_MAX	70 degrees
RANGE_MIN	-66 degrees

Specimen Description -	
ANATOMICAL_DETAIL	27
ATLAS_COORD	, ,
CELL_TYPE	medium spiny neuron
ORGAN	brain
REGION	neostriatum
STRUCTURE	spiny dendrite
SYSTEM	central nervous system

Electron Microscopy Product -	
EM_PRODUCT_ID	7
ACCELERATING_VOLTAGE	3 MeV
MAGNIFICATION	10000
RECORDING_MEDIUM	film

Raw 2D Image

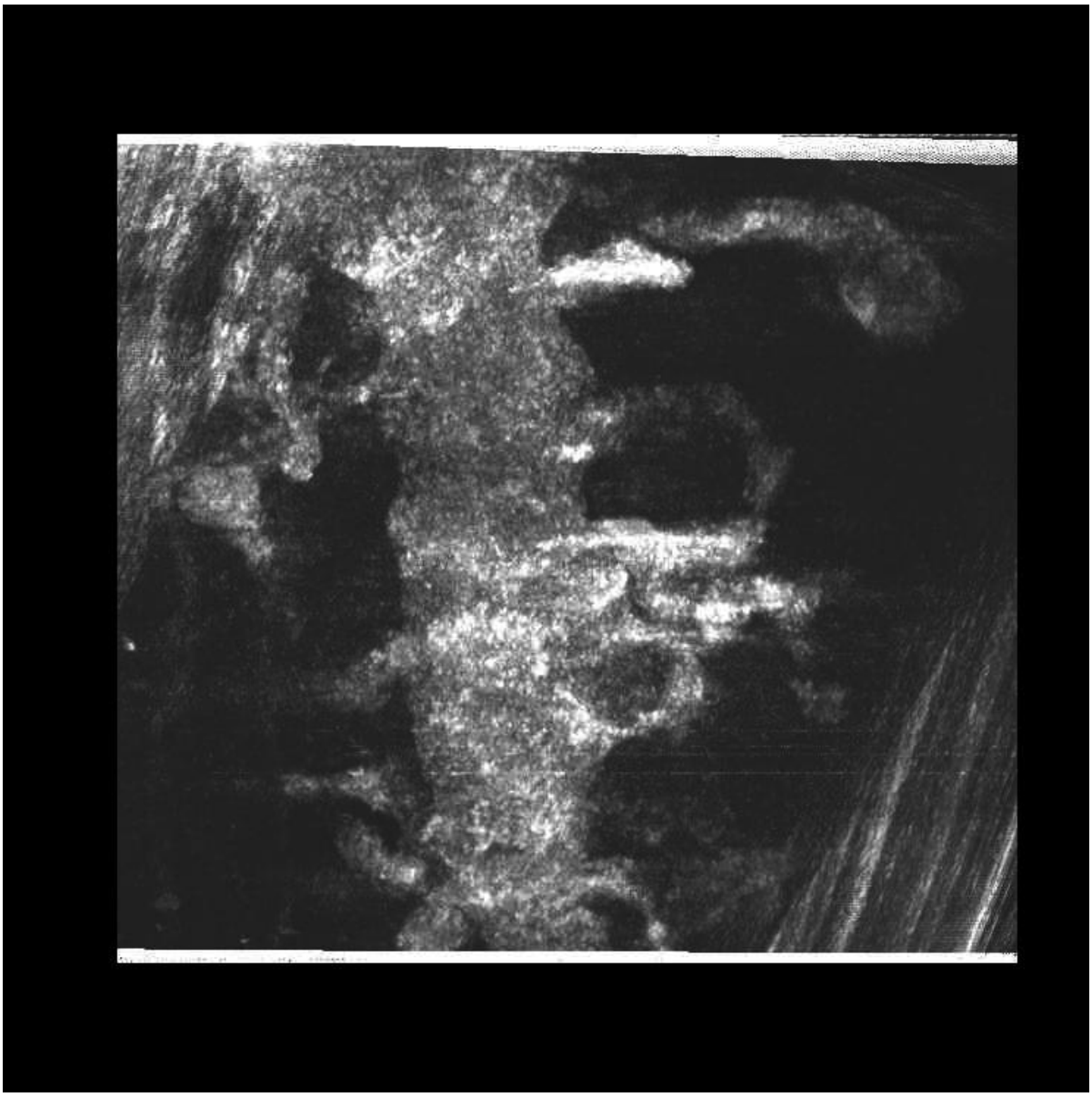
Raw Low Resolution 2D Image -



Raw 2D Image -	
IMAGE2D_ID	27
IMAGE_DESC	tar file contains the original tilt images compressed using the compress command; osaka4.????.f.Z. Unfortunately; the original fiducial mark file was not saved.
IMAGE_FILE_FORMAT	suprim
IMAGE_FILE_NAME	osaka4/osaka4_img.jpg
MAGNIFICATION	10000
RAW_ANIMATION_DESC	Aligned and cropped tilt images from a striatal medium spiny neuron that was injected with Lucifer Yellow and then photooxidized. No fiducial marks were available and so the alignment and subsequent reconstruction are poor. The quality of the microscopic images is fine though, so they can be re-aligned.
RAW_ANIMATION_FILE	osaka4/osaka4_img.qt
RAW_DATA_FILE	osaka4/osaka4_img.tar
THUMBNAIL_DESC	Single tilt image (zero degree tilt) through a 4 um thick section of spiny dendrite from a medium spiny neuron that was injected with Lucifer Yellow then photooxidized
THUMBNAIL_FILE	P1119/osaka4_rt.jpg

Reconstruction

Reconstruction Image -



Reconstruction -	
RECONSTRUCTION3D_ID	27
ALIGNMENT_PROGRAM	manual
CROPPING_COORDINATE1	,
CROPPING_COORDINATE2	,
RECON_ALGORITHM	R-weighted back projection
RECON_DATE	2000-04-13 00:00:00.0
RECON_DESC	Volume reconstruction of osaka4 in Analyze format; volume has been sigma filtered using Analyze
RECON_PROGRAM	Suprim
RECON_TYPE	single tilt electron tomography
THUMBNAIL	P1119/osaka4_vt.jpg
VOLUME_DIMENSION	740, 568, 350
VOLUME_NAME	osaka4/osaka4_vol.tar
VOXEL_SCALE	.007, .007, .007
RECONSTRUCTION_IMAGES_ID	27
RECON_IMAGE_DESC	Tomographic reconstruction of a portion of medium spiny neuron in a 4 um thick section. This data set is poorly aligned due to a lack of adquate fiducial markers. This volume is an example of a poor reconstruction
RECON_FILE_NAME	osaka4/osaka4_vol.jpg
VOLUME_THUMBNAIL	P1119/osaka4_vt.jpg
ANIMATION_FILE	osaka4/osaka4_vol.mov

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