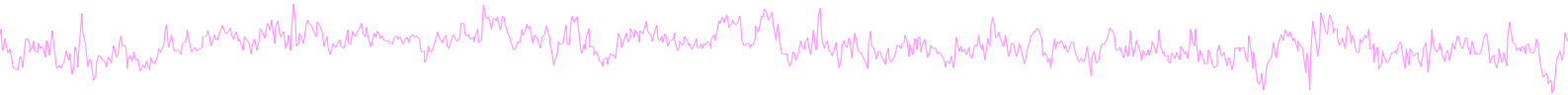
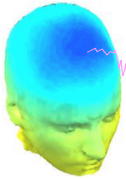


STUDY design and plotting overview



STEP 1

Build a STUDY

STEP 2

Build design(s)

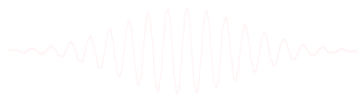
STEP 3

Precompute the data

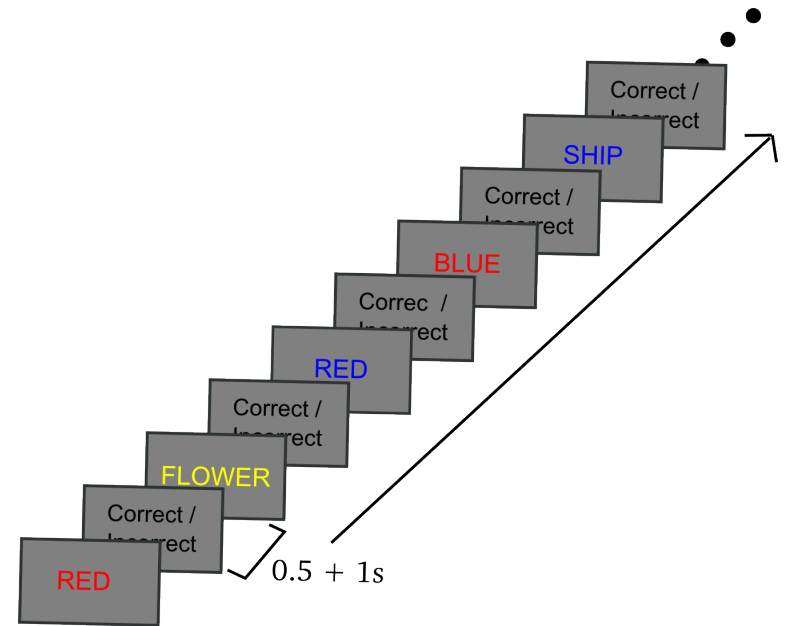
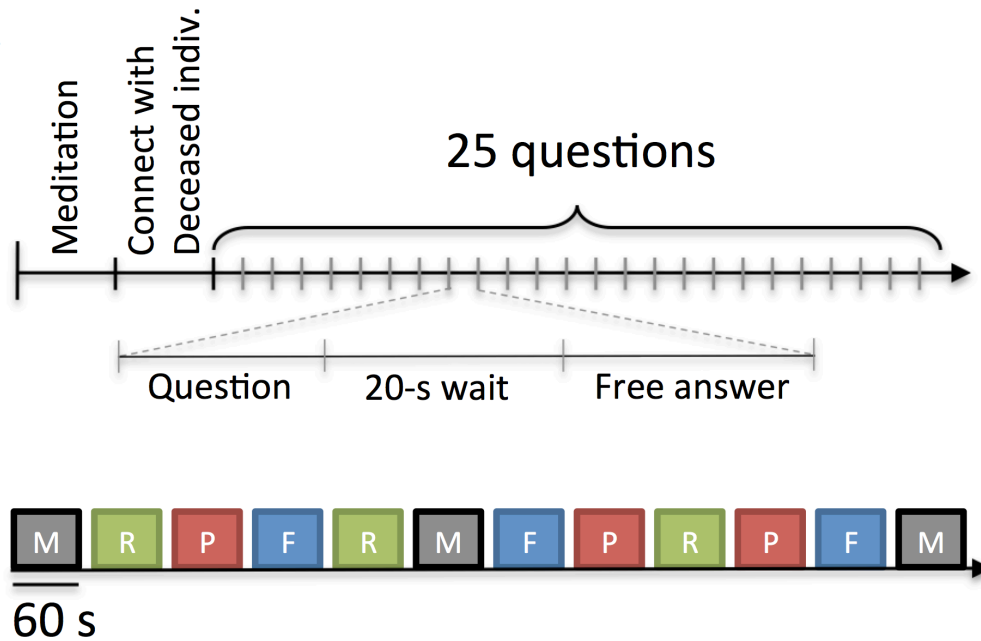
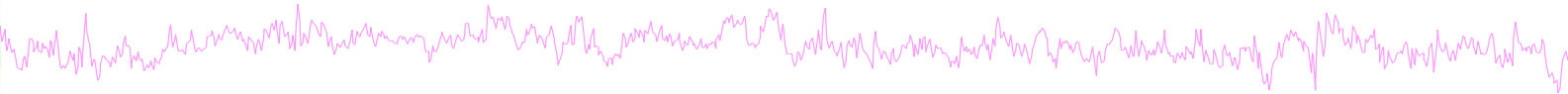
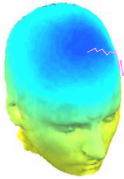
STEP 4

Plot the data

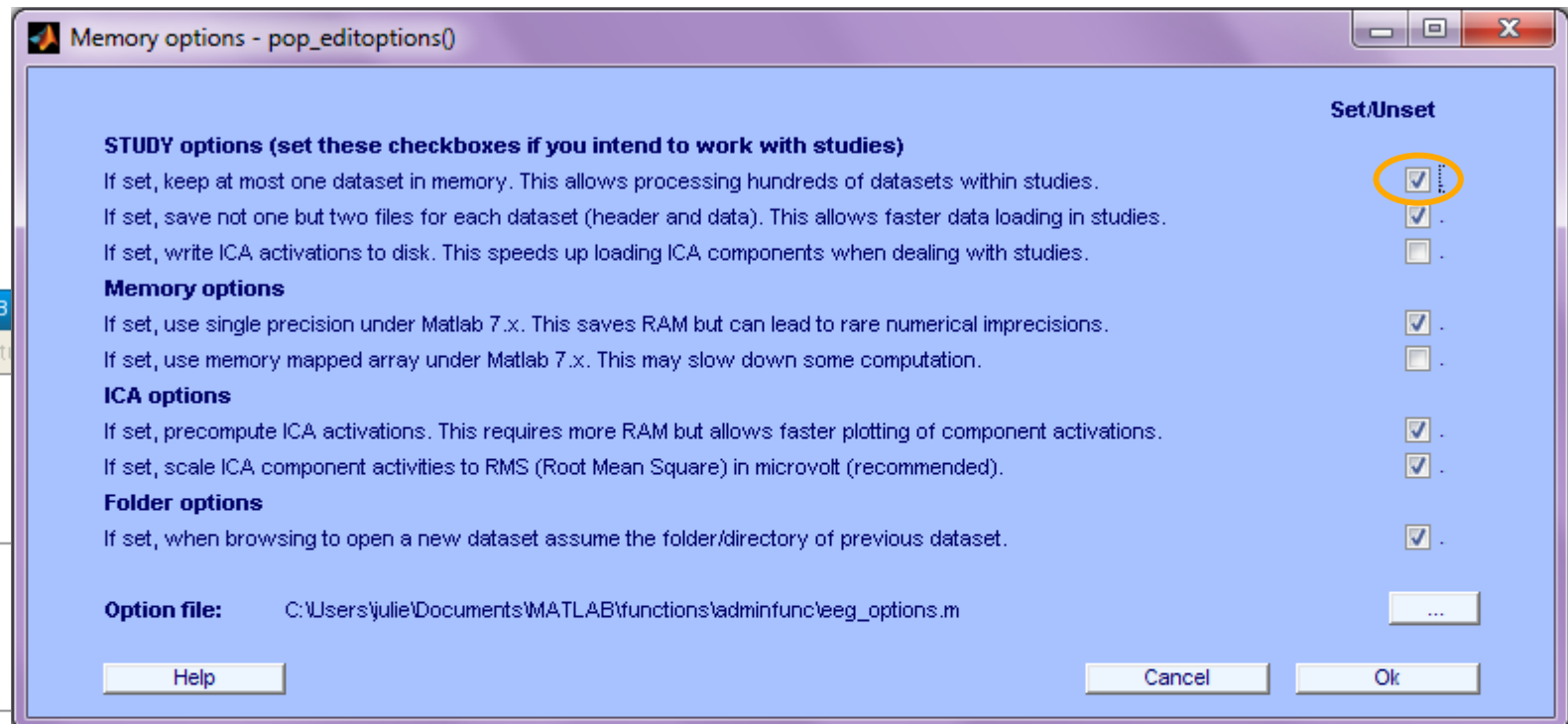
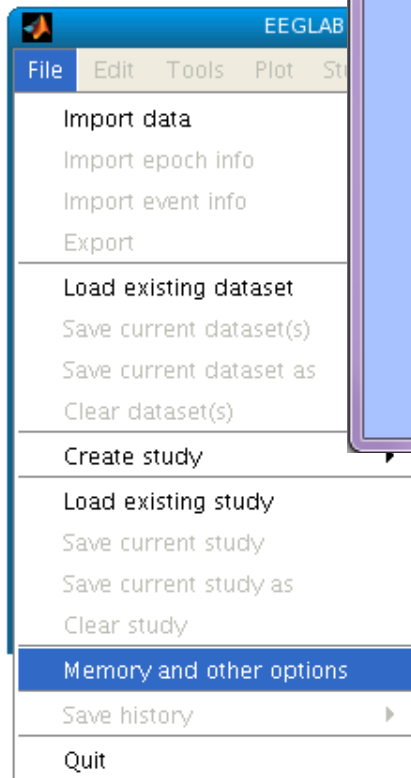
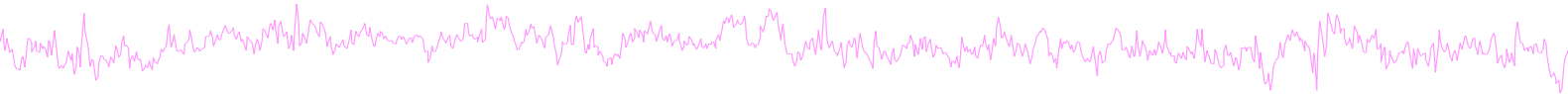
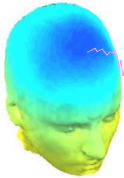
Exercise...



Formalizing experimental protocols

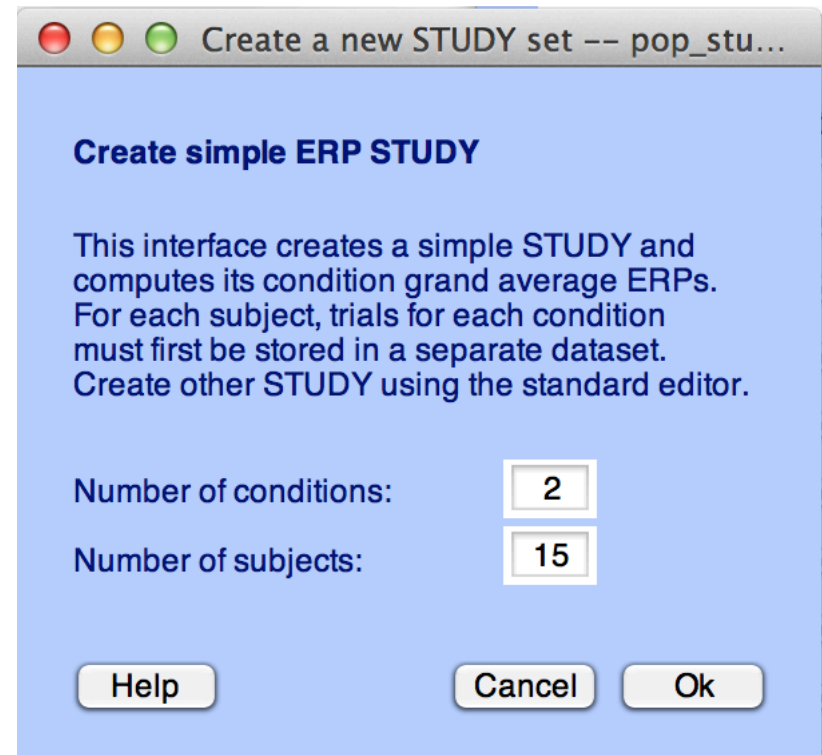
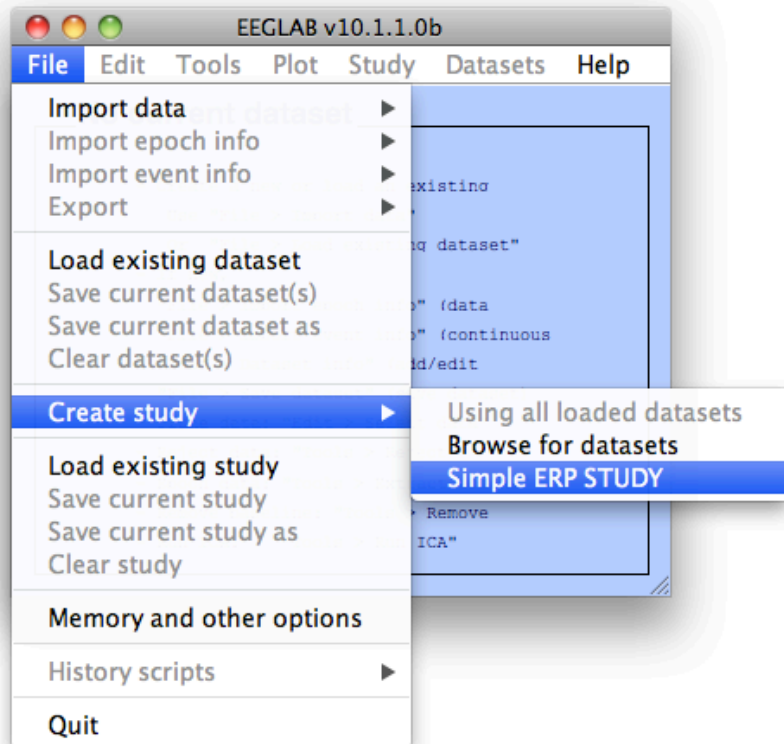
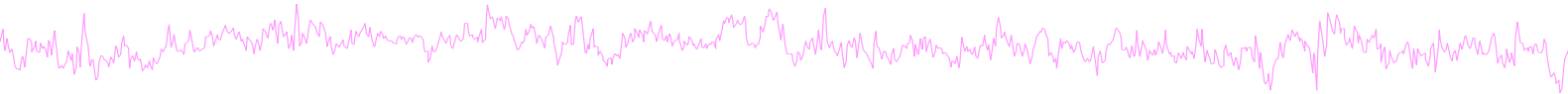
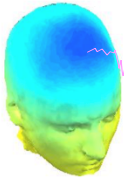


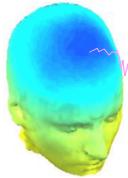
Memory options



**Memory options should change
when using STUDY vs single dataset**

Create simple ERP STUDY





Create a new STUDY set -- pop_studyerp()

Create simple ERP STUDY

STUDY set name:

Condition 1 name: Condition 2 name:

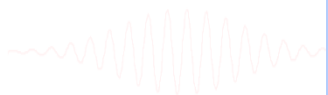
Condition 1 datasets

<input type="text" value="/data/STUDY/S01/lgnore.set"/>	<input data-bbox="955 568 1005 607" type="button" value="..."/>
<input type="text" value="/data/STUDY/S02/lgnore.set"/>	<input data-bbox="955 618 1005 657" type="button" value="..."/>
<input type="text" value="/data/STUDY/S03/lgnore.set"/>	<input data-bbox="955 669 1005 708" type="button" value="..."/>
<input type="text"/>	<input data-bbox="955 719 1005 758" type="button" value="..."/>
<input type="text"/>	<input data-bbox="955 769 1005 808" type="button" value="..."/>
<input type="text"/>	<input data-bbox="955 820 1005 859" type="button" value="..."/>
<input type="text"/>	<input data-bbox="955 870 1005 909" type="button" value="..."/>
<input type="text"/>	<input data-bbox="955 920 1005 959" type="button" value="..."/>
<input type="text"/>	<input data-bbox="955 971 1005 1010" type="button" value="..."/>
<input type="text"/>	<input data-bbox="955 1021 1005 1060" type="button" value="..."/>
<input type="text"/>	<input data-bbox="955 1071 1005 1110" type="button" value="..."/>
<input type="text"/>	<input data-bbox="955 1122 1005 1161" type="button" value="..."/>
<input type="text"/>	<input data-bbox="955 1172 1005 1211" type="button" value="..."/>
<input type="text"/>	<input data-bbox="955 1222 1005 1261" type="button" value="..."/>
<input type="text"/>	<input data-bbox="955 1273 1005 1312" type="button" value="..."/>

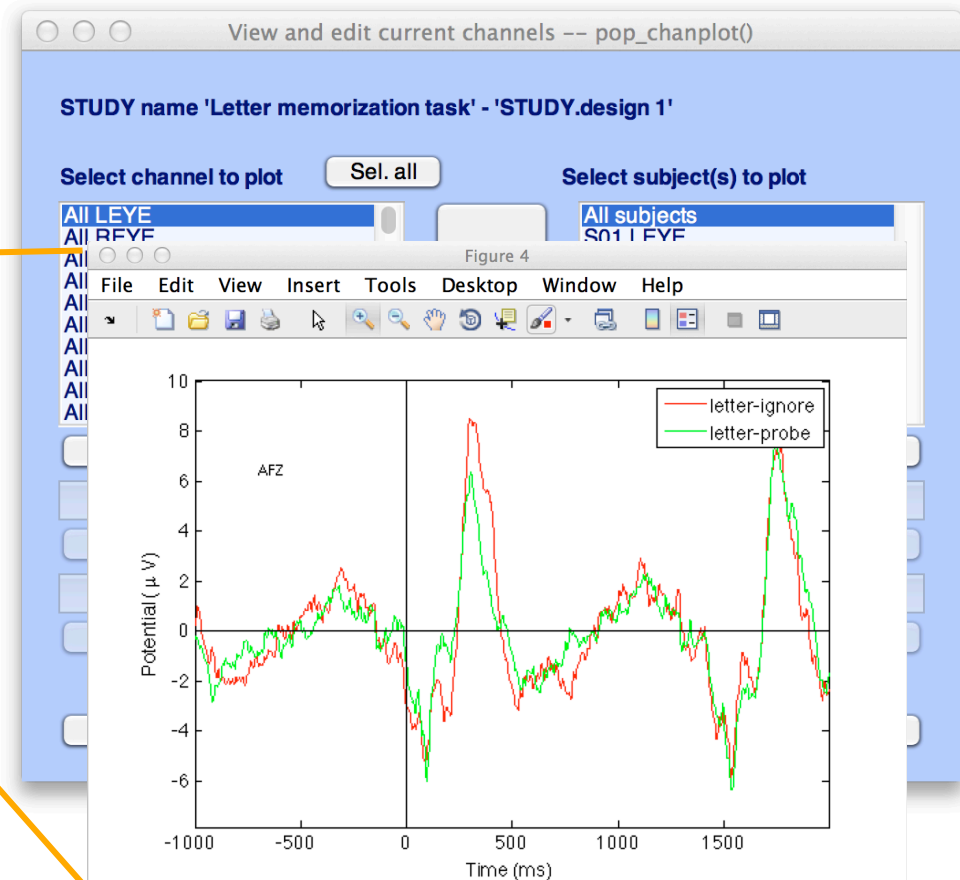
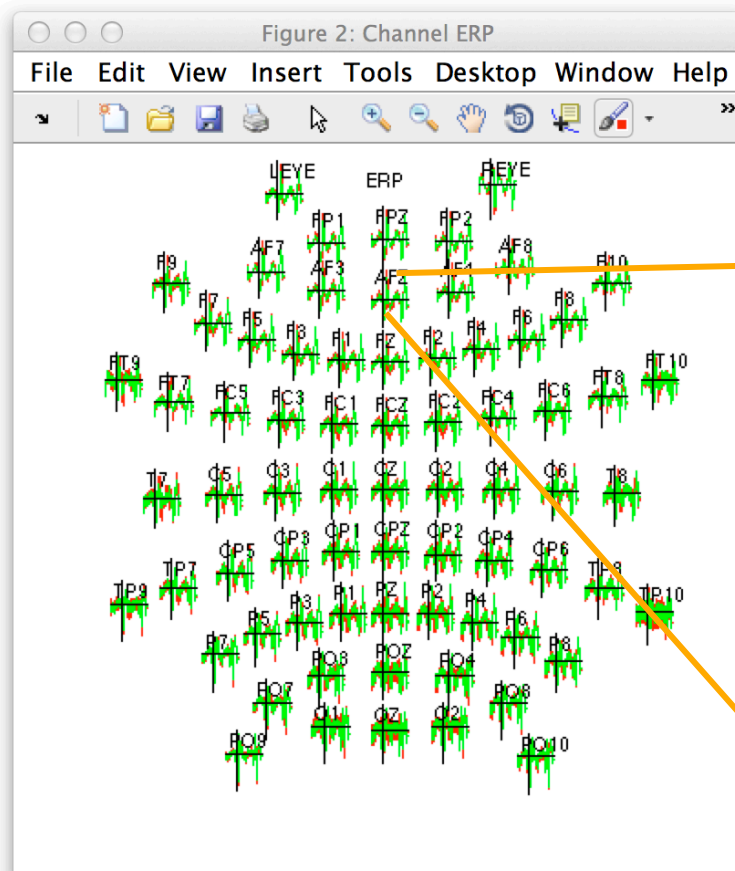
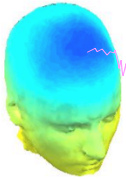
Condition 2 datasets

<input type="text" value="/data/STUDY/S01/Memorize.set"/>	<input data-bbox="1522 568 1572 607" type="button" value="..."/>
<input type="text" value="/data/STUDY/S02/Memorize.set"/>	<input data-bbox="1522 618 1572 657" type="button" value="..."/>
<input type="text" value="/data/STUDY/S03/Memorize.set"/>	<input data-bbox="1522 669 1572 708" type="button" value="..."/>
<input type="text"/>	<input data-bbox="1522 719 1572 758" type="button" value="..."/>
<input type="text"/>	<input data-bbox="1522 769 1572 808" type="button" value="..."/>
<input type="text"/>	<input data-bbox="1522 820 1572 859" type="button" value="..."/>
<input type="text"/>	<input data-bbox="1522 870 1572 909" type="button" value="..."/>
<input type="text"/>	<input data-bbox="1522 920 1572 959" type="button" value="..."/>
<input type="text"/>	<input data-bbox="1522 971 1572 1010" type="button" value="..."/>
<input type="text"/>	<input data-bbox="1522 1021 1572 1060" type="button" value="..."/>
<input type="text"/>	<input data-bbox="1522 1071 1572 1110" type="button" value="..."/>
<input type="text"/>	<input data-bbox="1522 1122 1572 1161" type="button" value="..."/>
<input type="text"/>	<input data-bbox="1522 1172 1572 1211" type="button" value="..."/>
<input type="text"/>	<input data-bbox="1522 1222 1572 1261" type="button" value="..."/>
<input type="text"/>	<input data-bbox="1522 1273 1572 1312" type="button" value="..."/>

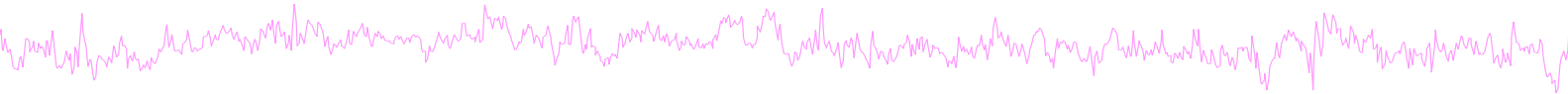
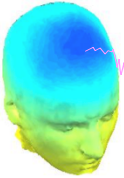
When using more than 1 condition, datasets on each line must correspond to the same subject.



Create simple ERP STUDY

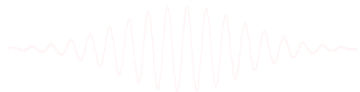


Exercises

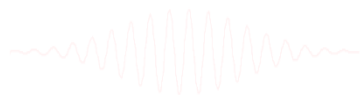
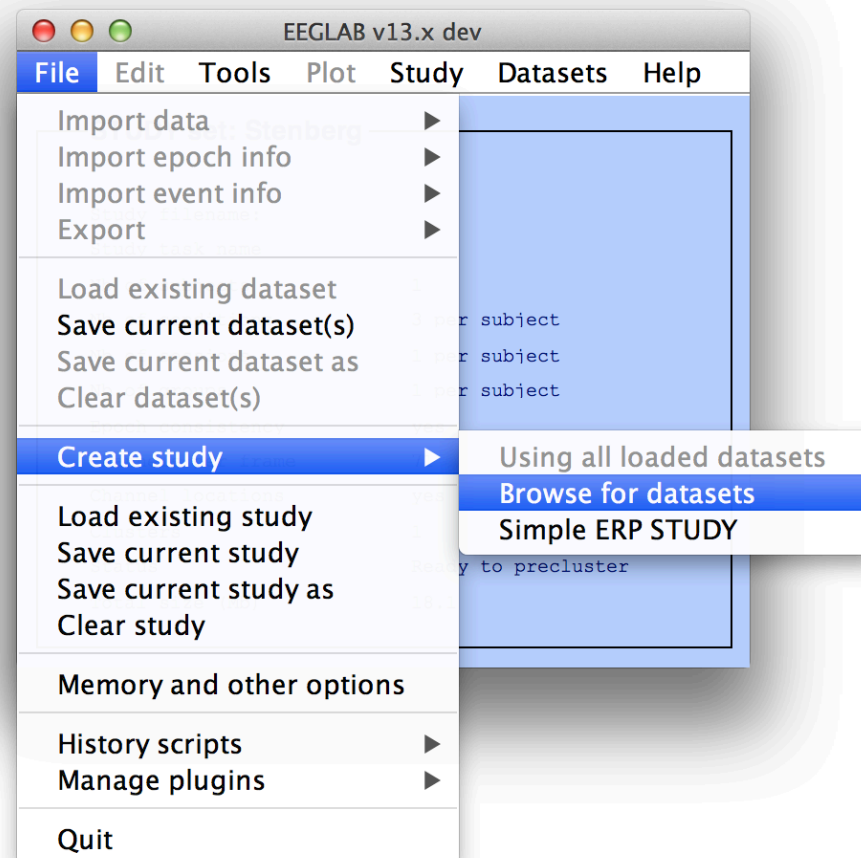
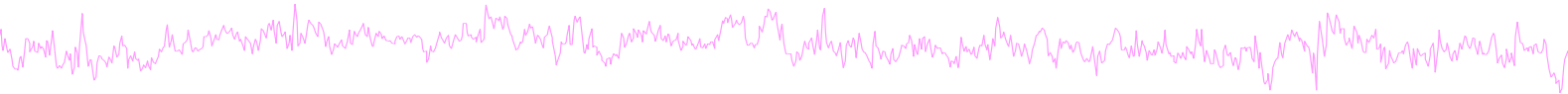
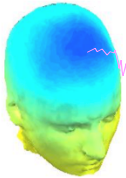


Suggestion for exercise

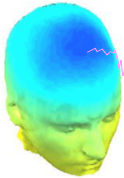
1. From the GUI, select “File > Create STUDY > Simple ERP STUDY”
2. Enter 2 conditions “letter-ignore” and “letter-memorize”
3. In the column for “letter-ignore” select datasets “ignore.set” for 3 subjects S01, S02, S03 (in the STUDY folder)
4. In the column for “letter-memorize” select datasets “probe.set” for 3 subjects S01, S02, S03 (in the STUDY folder)
5. Press OK.



Build a STUDY



Build a STUDY, cont'd



Create a new STUDY set -- pop_study()

Create a new STUDY set

STUDY set name:

STUDY set task name:

STUDY set notes:

	dataset filename	browse	subject	session	condition	group	
1	<input type="text"/>	...	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="Select by r.v."/> <input type="button" value="Clear"/>
2	<input type="text"/>	...	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="Clear"/>
3	<input type="text"/>	...	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
4	<input type="text"/>	...	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
5	<input type="text"/>	...	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
6	<input type="text"/>	...	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
7	<input type="text"/>	...	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
8	<input type="text"/>	...	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
9	<input type="text"/>	...	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
10	<input type="text"/>	...	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	

Important note: Removed datasets will not be saved before being deleted from EEGLAB memory

< Page 1 >

☒ Update dataset info - datasets stored on disk will be overwritten (unset = Keep study info set)

☐ Delete cluster information (to allow loading new datasets, set new components for clustering)

Help

Choose dataset to add to STUDY -- pop_study()

Look in: S01

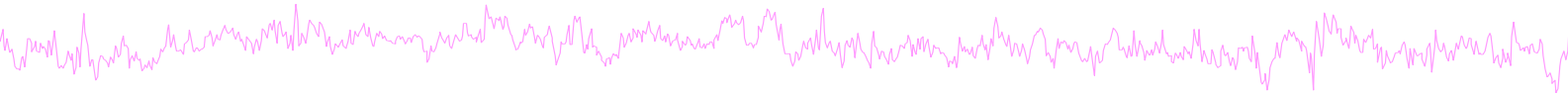
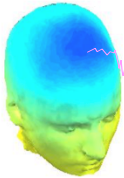
Name	Date modified	Type
Ignore.set	11/8/2009 7:06 PM	SET File
Memorize.set	11/8/2009 7:06 PM	SET File
Probe.set	11/12/2009 10:02 ...	SET File

File name:

Files of type: (*.set, *.SET)

Open Cancel

Edit dataset info



Create a new STUDY set -- pop_study()

Edit STUDY set information - remember to save changes

STUDY set name:

STUDY set task name:

STUDY set notes:

	dataset filename	browse	subject	session	condition	group	Select by r.v.	
1	/Volumes/donnees/data/STU...	...	S01	<input type="checkbox"/>	memorize		All comp.	Clear
2	/Volumes/donnees/data/STU...	...	S01	<input type="checkbox"/>	ignore		All comp.	Clear
3	/Volumes/donnees/data/STU...	...	S01	<input type="checkbox"/>	probe		All comp.	Clear
4	/Volumes/donnees/data/STU...	...	S02	<input type="checkbox"/>	memorize		All comp.	Clear
5	/Volumes/donnees/data/STU...	...	S02	<input type="checkbox"/>	ignore		All comp.	Clear
6	/Volumes/donnees/data/STU...	...	S02	<input type="checkbox"/>	probe		All comp.	Clear
7	/Volumes/donnees/data/STU...	...	S03	<input type="checkbox"/>	memorize		All comp.	Clear
8	/Volumes/donnees/data/STU...	...	S03	<input type="checkbox"/>	ignore		All comp.	Clear
9	/Volumes/donnees/data/STU...	...	S03	<input type="checkbox"/>	probe		All comp.	Clear
10	/Volumes/donnees/data/STU...	...	S04	<input type="checkbox"/>	memorize		All comp.	Clear

Important note: Removed datasets will not be saved before being deleted from EEGLAB memory

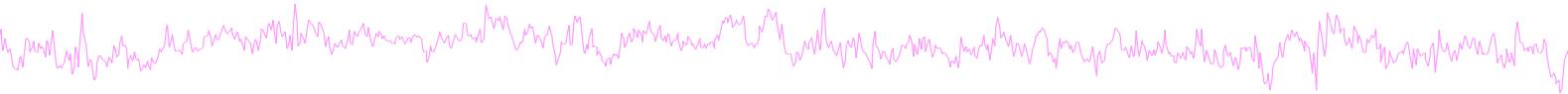
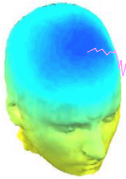
< Page 1 >

☐ Dataset info (condition, group, ...) differs from study info. [set] = Overwrite dataset info.

☒ Delete cluster information (to allow loading new datasets, set new components for clustering, etc.)

Help Cancel Ok

Experimental design



1x2 unpaired

Patients	Controls
Group A	Group B

1x2 paired

Stim A	Stim B

2x2 paired

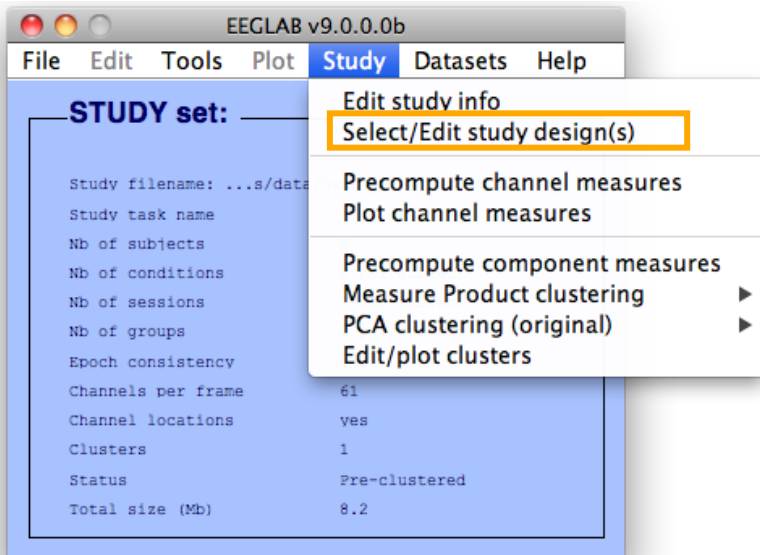
	Stim A	Stim B
Drug A		
Drug B		

2x2 unpaired

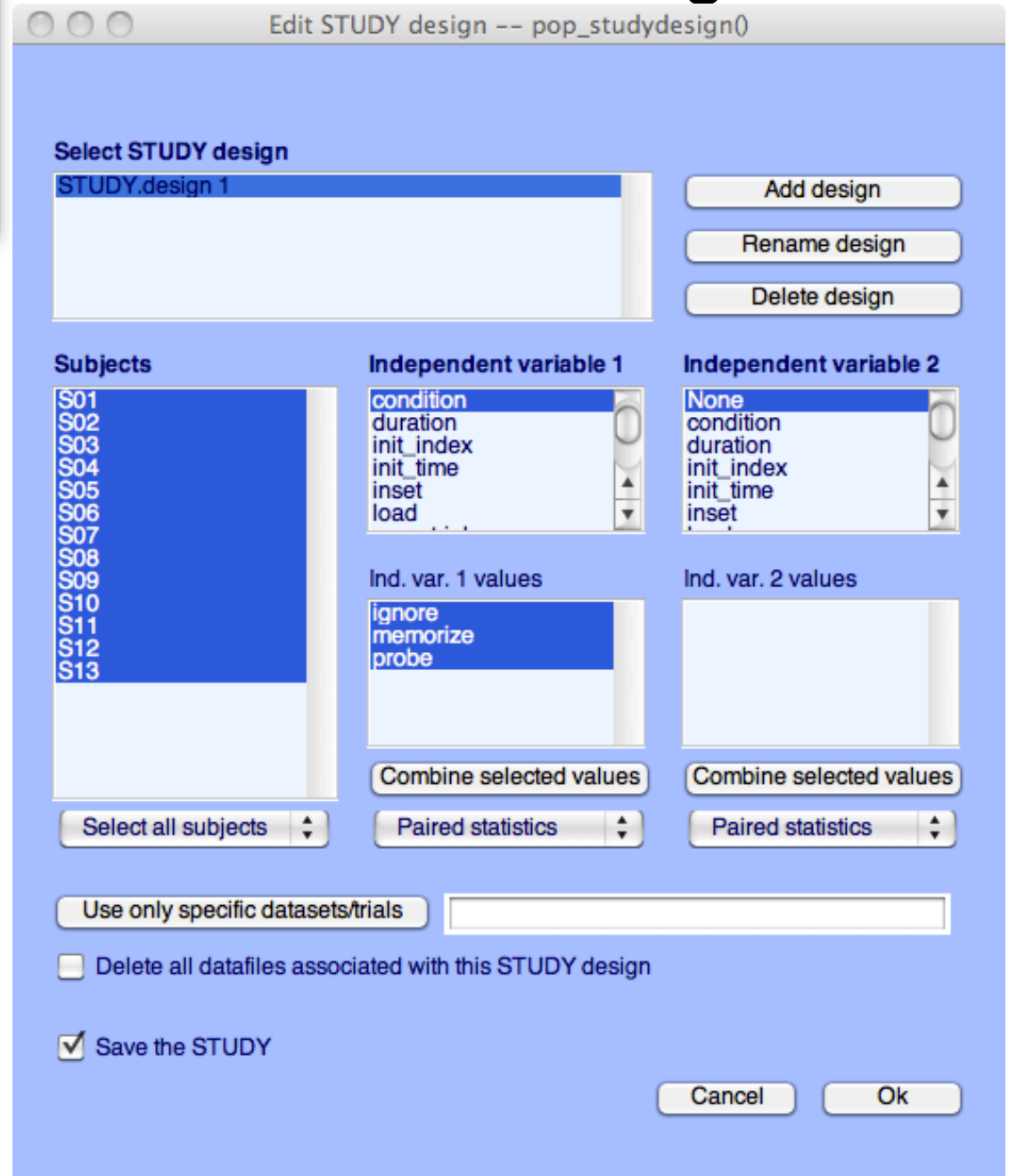
	Patients	Controls
Old	Group A	Group B
Young	Group C	Group D

2x2 paired & unpaired

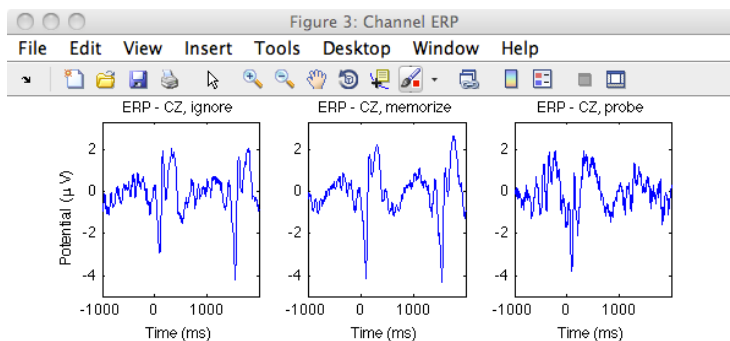
	Patients	Controls
Drug A		
Drug B		

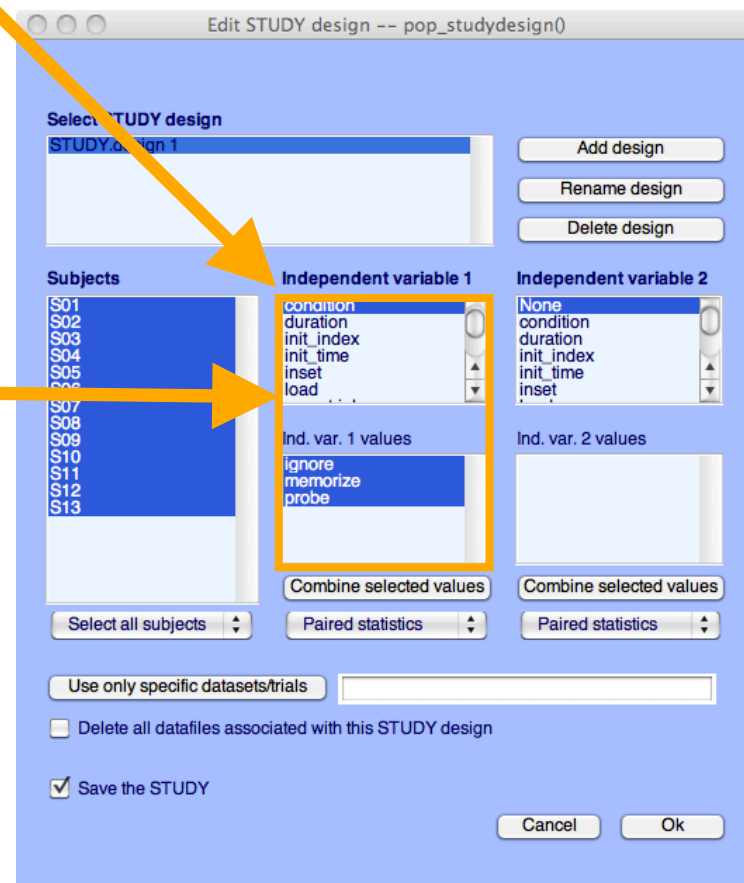
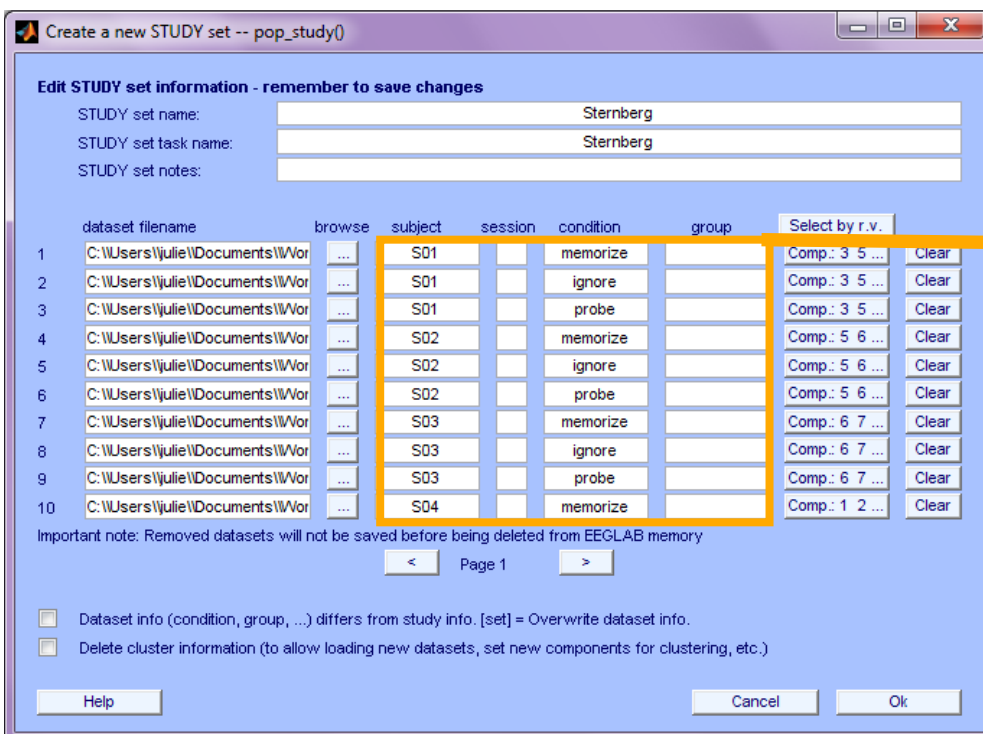
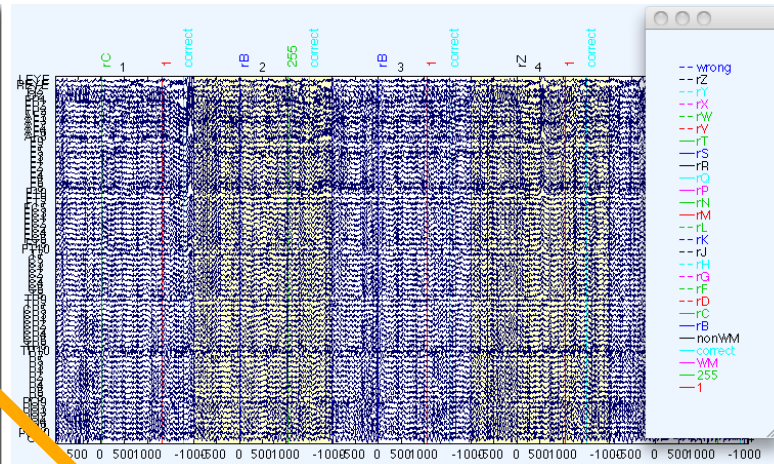
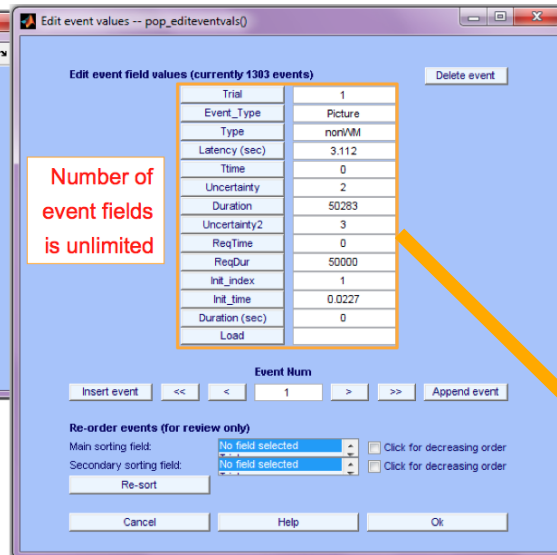
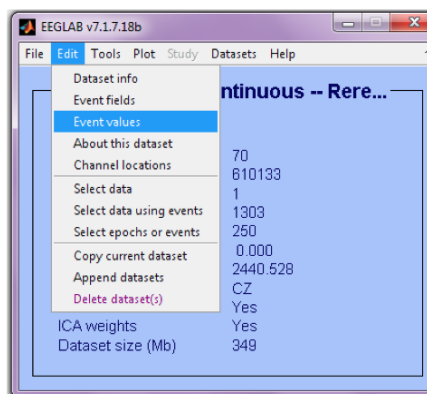


Create design

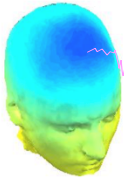


1x3 design





Build a STUDY, alternative method



Create a new STUDY set -- pop_study()

Create a new STUDY set

STUDY set name:

STUDY set task name:

STUDY set notes:

	dataset filename	browse	subject	session	condition	group	Select by r.v.	
1	<input type="text"/>	...	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Clear
2	<input type="text"/>	...	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Clear
3	<input type="text"/>	...	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Clear
4	<input type="text"/>	...	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Clear
5	<input type="text"/>	...	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Clear
6	<input type="text"/>	...	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Clear
7	<input type="text"/>	...	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Clear
8	<input type="text"/>	...	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Clear
9	<input type="text"/>	...	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Clear
10	<input type="text"/>	...	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	Clear

Important note: Removed datasets will not be saved before being deleted from EEG LAB memory

< Page 1 >

☒ Update dataset info - datasets stored on disk will be overwritten (unset = Keep study info separate).

☐ Delete cluster information (to allow loading new datasets, set new components for clustering, etc.)

Help Cancel Ok

Choose dataset to add to STUDY -- pop_study()

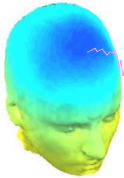
S01

Name	Date Modified
Memorize.icaspec	Thursday, November 12, 2009 9:08 PM
Memorize.icatopo	Monday, November 16, 2009 9:43 PM
Memorize.set	Sunday, November 8, 2009 8:06 AM
Probe.daterp	Monday, June 14, 2010 11:45 PM
Probe.fdt	Thursday, November 12, 2009 11:02 AM
Probe.icaerp	Monday, November 16, 2009 10:01 PM
Probe.icaersp	Tuesday, November 17, 2009 12:05 PM
Probe.icaitc	Tuesday, November 17, 2009 12:05 PM
Probe.icaspec	Thursday, November 12, 2009 9:09 PM
Probe.icatopo	Monday, November 16, 2009 9:44 PM
Probe.set	Thursday, November 12, 2009 11:02 AM
S01.fdt	Tuesday, November 9, 2010 12:05 PM
S01.set	Tuesday, November 9, 2010 12:05 PM

File Format: (*.set, *.SET)

Cancel Open

Edit dataset info



Create a new STUDY set -- pop_study()

Edit STUDY set information - remember to save changes

STUDY set name:

STUDY set task name:

STUDY set notes:

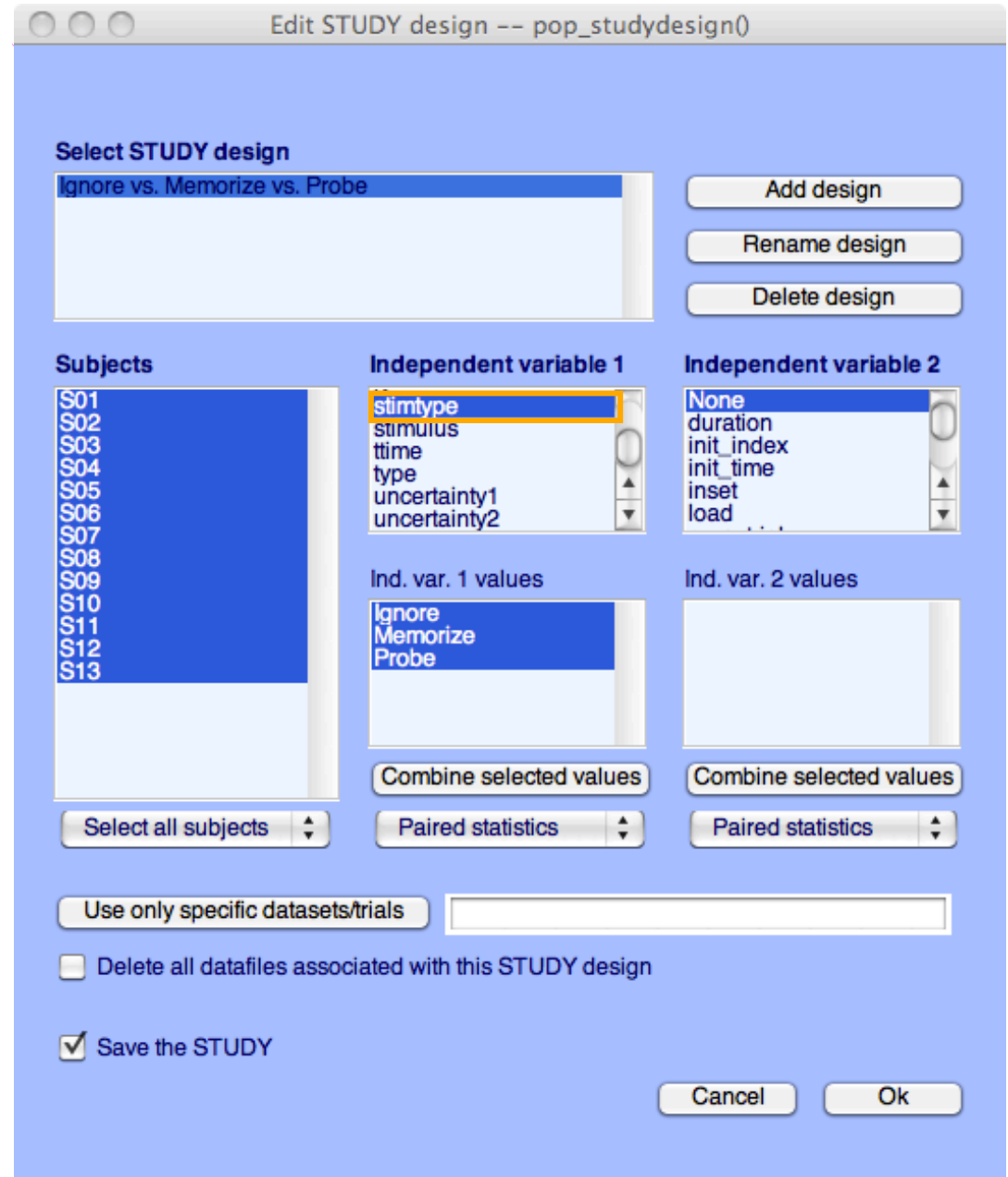
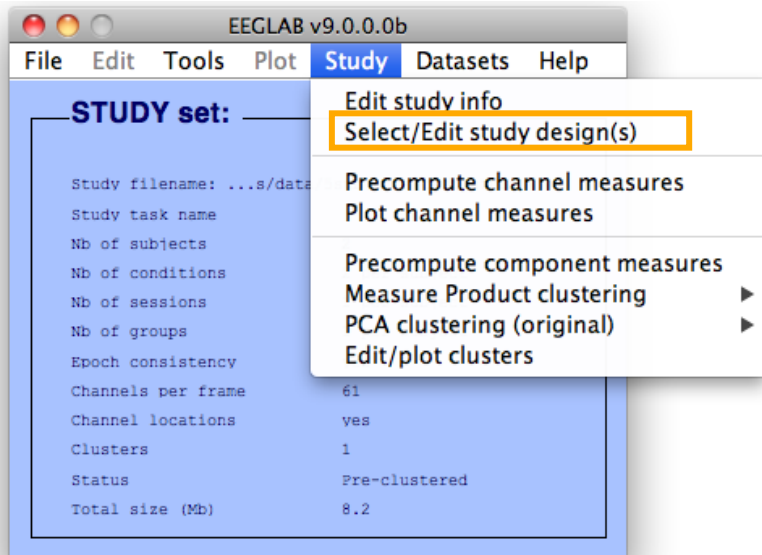
	dataset filename	browse	subject	session	condition	group	Select by r.v.	
1	<input type="text" value="/Volumes/donnees/data/STU[..."/>	<input type="button" value="..."/>	<input type="text" value="S01"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="Comp.: 1 2 ..."/>	<input type="button" value="Clear"/>
2	<input type="text" value="/Volumes/donnees/data/STU[..."/>	<input type="button" value="..."/>	<input type="text" value="S02"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="Comp.: 1 2 ..."/>	<input type="button" value="Clear"/>
3	<input type="text" value="/Volumes/donnees/data/STU[..."/>	<input type="button" value="..."/>	<input type="text" value="S03"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="Comp.: 1 2 ..."/>	<input type="button" value="Clear"/>
4	<input type="text" value="/Volumes/donnees/data/STU[..."/>	<input type="button" value="..."/>	<input type="text" value="S04"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="Comp.: 1 2 ..."/>	<input type="button" value="Clear"/>
5	<input type="text" value="/Volumes/donnees/data/STU[..."/>	<input type="button" value="..."/>	<input type="text" value="S05"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="Comp.: 1 2 ..."/>	<input type="button" value="Clear"/>
6	<input type="text" value="/Volumes/donnees/data/STU[..."/>	<input type="button" value="..."/>	<input type="text" value="S06"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="Comp.: 1 2 ..."/>	<input type="button" value="Clear"/>
7	<input type="text" value="/Volumes/donnees/data/STU[..."/>	<input type="button" value="..."/>	<input type="text" value="S07"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="Comp.: 1 2 ..."/>	<input type="button" value="Clear"/>
8	<input type="text" value="/Volumes/donnees/data/STU[..."/>	<input type="button" value="..."/>	<input type="text" value="S08"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="Comp.: 1 2 ..."/>	<input type="button" value="Clear"/>
9	<input type="text" value="/Volumes/donnees/data/STU[..."/>	<input type="button" value="..."/>	<input type="text" value="S09"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="Comp.: 1 2 ..."/>	<input type="button" value="Clear"/>
10	<input type="text" value="/Volumes/donnees/data/STU[..."/>	<input type="button" value="..."/>	<input type="text" value="S10"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="Comp.: 1 2 ..."/>	<input type="button" value="Clear"/>

Important note: Removed datasets will not be saved before being deleted from EEGLAB memory

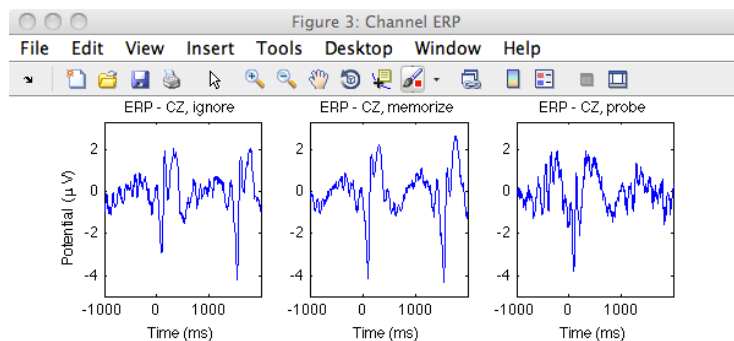
☒ Update dataset info - datasets stored on disk will be overwritten (unset = Keep study info separate).

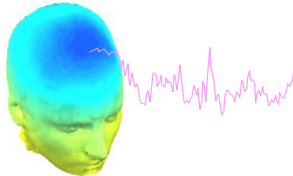
☐ Delete cluster information (to allow loading new datasets, set new components for clustering, etc.)

Create design



1x3 design





Edit STUDY design -- pop_studydesign()

Select STUDY design

Audio versus light all subjects
All stimulus type - non dual subjects only
Blank versus other stimulus type - non dual subjects only
Audio preceded by different stimulus types
Audio versus light accross sessions - non dual subjects only
Audio versus light accross presentation - non dual subjects only

Add design
Rename design
Delete design

Subjects

c1
c2
c3
c4
c5
c6
c7
c8
nd1
nd2
nd3
nd4
nd5
nd6
nd7
nd8

Select all subjects

Independent variable 1

None
group
stimulusType
presentation
session
preevent

Ind. var. 1 values

audio
blank
both
light
audio - light

Combine selected values
Unpaired statistics

Independent variable 2

None
group
stimulusType
presentation
session
preevent

Ind. var. 2 values

control
nondual

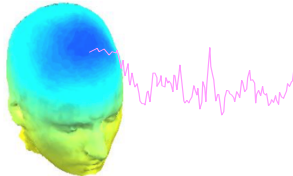
Combine selected values
Unpaired statistics

Use only specific datasets/trials

☐ Delete all datafiles associated with this STUDY design

☒ Save the STUDY

Cancel Ok



Edit STUDY design -- pop_studydesign()

Select STUDY design

Audio versus light all subjects
All stimulus type - non dual subjects only
Blank versus other stimulus type - non dual subjects only
Audio preceeded by different stimulus types
Audio versus ligh accross sessions - non dual subjects only
Audio versus light accross presentation - non dual subjects only

Add design
Rename design
Delete design

Subjects

c1
c2
c3
c4
c5
c6
c7
c8
nd1
nd2
nd3
nd4
nd5
nd6
nd7
nd8

Select all subjects

Independent variable 1

None
group
stimulusType
presentation
session
preevent

Ind. var. 1 values

audio
blank
both
light
audio - light

Combine selected values
Unpaired statistics

Independent variable 2

None
group
stimulusType
presentation
session
preevent

Ind. var. 2 values

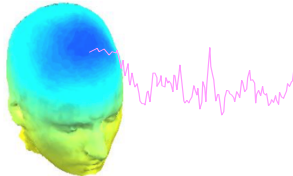
Combine selected values
Unpaired statistics

Use only specific datasets/trials

☐ Delete all datafiles associated with this STUDY design

☒ Save the STUDY

Cancel Ok



Edit STUDY design -- pop_studydesign()

Select STUDY design

Audio versus light all subjects
All stimulus type - non dual subjects only
Blank versus other stimulus type - non dual subjects only
Audio preceeded by different stimulus types
Audio versus ligh accross sessions - non dual subjects only
Audio versus light accross presentation - non dual subjects only

Add design
Rename design
Delete design

Subjects

c1
c2
c3
c4
c5
c6
c7
c8
nd1
nd2
nd3
nd4
nd5
nd6
nd7
nd8

Select all subjects

Independent variable 1

None
group
stimulusType
presentation
session
preevent

Ind. var. 1 values

audio
blank
both
light
audio - light

Combine selected values
Unpaired statistics

Independent variable 2

None
group
stimulusType
presentation
session
preevent

Ind. var. 2 values

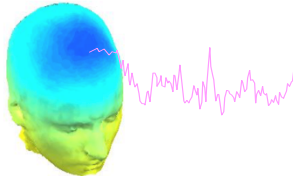
Combine selected values
Unpaired statistics

Use only specific datasets/trials

☐ Delete all datafiles associated with this STUDY design

☒ Save the STUDY

Cancel Ok



Edit STUDY design -- pop_studydesign0

Select STUDY design

Audio versus light all subjects
All stimulus type - non dual subjects only
Blank versus other stimulus type - non dual subjects only
Audio preceeded by different stimulus types
Audio versus ligh accross sessions - non dual subjects only
Audio versus light accross presentation - non dual subjects only

Add design
Rename design
Delete design

Subjects

c1
c2
c3
c4
c5
c6
c7
c8
nd1
nd2
nd3
nd4
nd5
nd6
nd7
nd8

Select all subjects

Independent variable 1

None
group
stimulusType
presentation
session
prevevent

Ind. var. 1 values

audio
blank
both
light

Combine selected values
Unpaired statistics

Independent variable 2

None
group
stimulusType
presentation
session
prevevent

Ind. var. 2 values

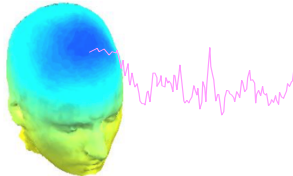
Combine selected values
Unpaired statistics

Use only specific datasets/trials 'stimulusType',{'audio'}

☐ Delete all datafiles associated with this STUDY design

☒ Save the STUDY

Cancel Ok



Edit STUDY design -- pop_studydesign()

Select STUDY design

Audio versus light all subjects
All stimulus type - non dual subjects only
Blank versus other stimulus type - non dual subjects only
Audio preceeded by different stimulus types
Audio versus ligh accross sessions - non dual subjects only
Audio versus light accross presentation - non dual subjects only

Add design
Rename design
Delete design

Subjects

c1
c2
c3
c4
c5
c6
c7
c8
nd1
nd2
nd3
nd4
nd5
nd6
nd7
nd8

Select all subjects

Independent variable 1

None
group
stimulusType
presentation
session
preevent

Ind. var. 1 values

audio
blank
both
light
audio - light

Combine selected values
Unpaired statistics

Independent variable 2

None
group
stimulusType
presentation
session
preevent

Ind. var. 2 values

1
2

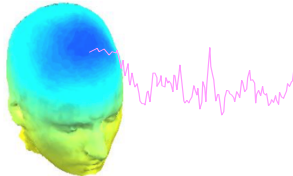
Combine selected values
Unpaired statistics

Use only specific datasets/trials

☐ Delete all datafiles associated with this STUDY design

☒ Save the STUDY

Cancel Ok



Edit STUDY design -- pop_studydesign()

Select STUDY design

Audio versus light all subjects
All stimulus type - non dual subjects only
Blank versus other stimulus type - non dual subjects only
Audio preceeded by different stimulus types
Audio versus ligh accross sessions - non dual subjects only
Audio versus light accross presentation - non dual subjects only

Add design
Rename design
Delete design

Subjects

c1
c2
c3
c4
c5
c6
c7
c8
nd1
nd2
nd3
nd4
nd5
nd6
nd7
nd8

Select all subjects

Independent variable 1

None
group
stimulusType
presentation
session
preevent

Ind. var. 1 values

audio
blank
both
light
audio - light

Combine selected values
Unpaired statistics

Independent variable 2

None
group
stimulusType
presentation
session
preevent

Ind. var. 2 values

evoked
spontaneous

Combine selected values
Unpaired statistics

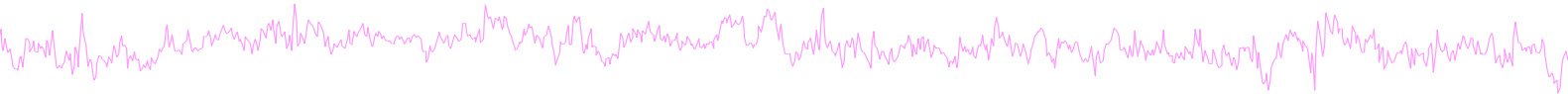
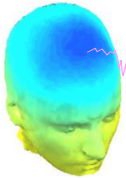
Use only specific datasets/trials

☐ Delete all datafiles associated with this STUDY design

☒ Save the STUDY

Cancel Ok

STUDY design and plotting overview



STEP 1

Build a STUDY

STEP 2

Build design(s)

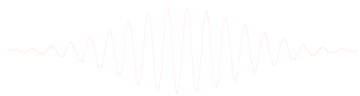
STEP 3

Precompute the data

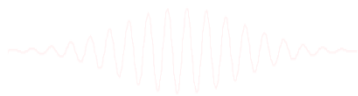
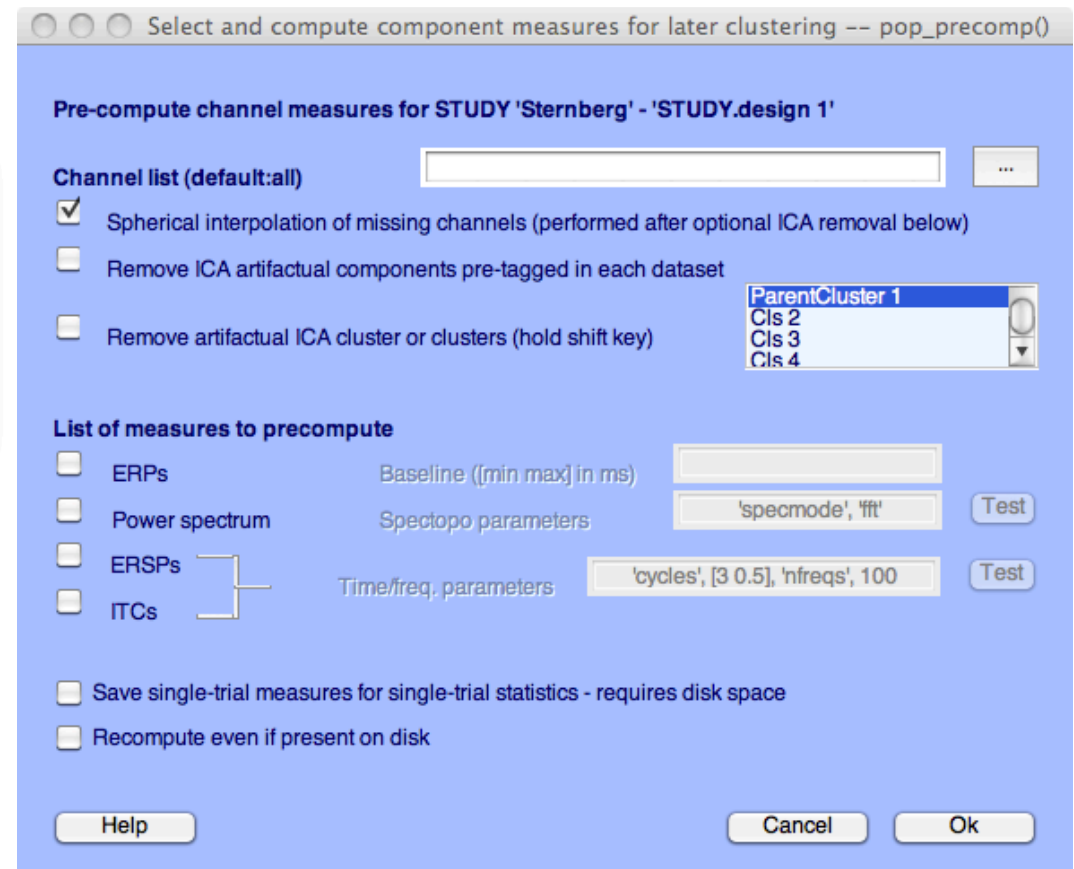
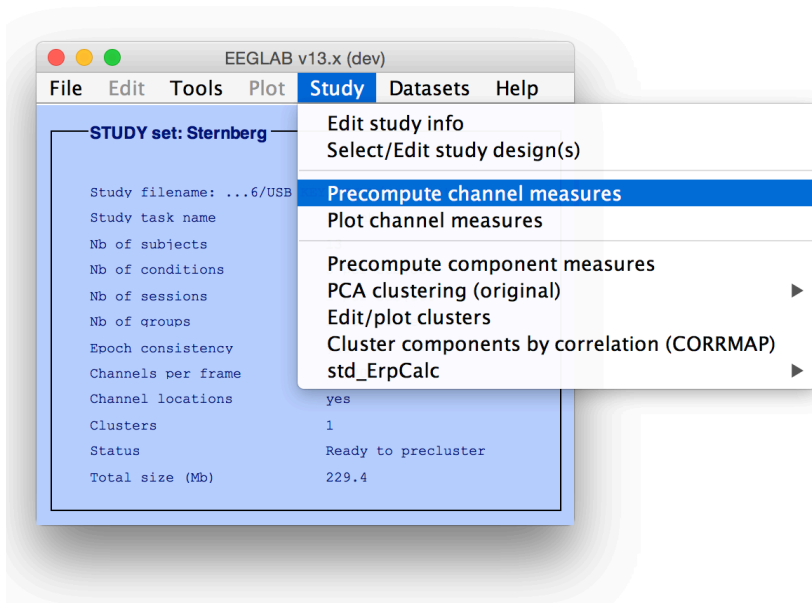
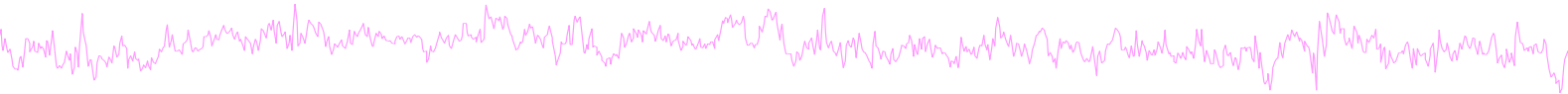
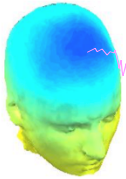
STEP 4

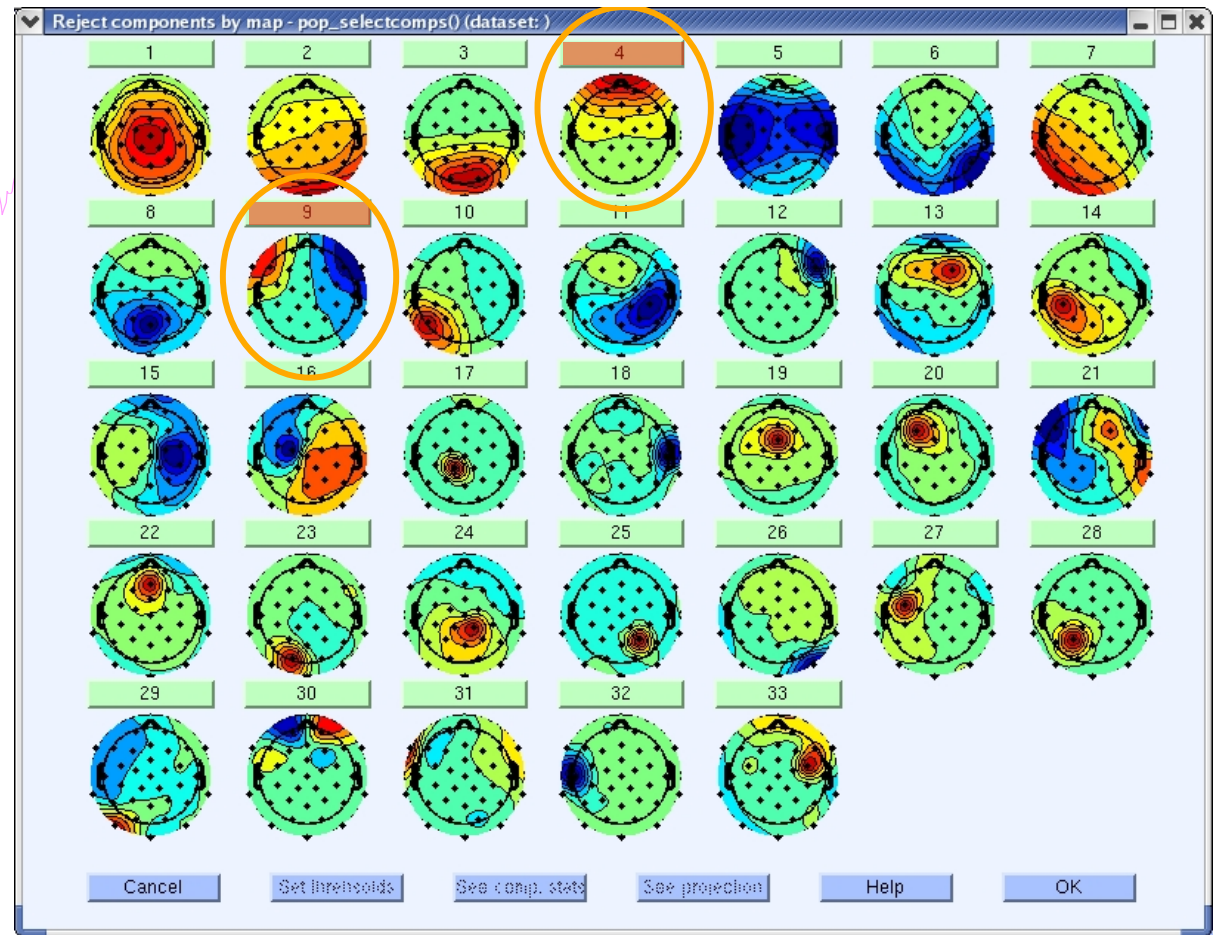
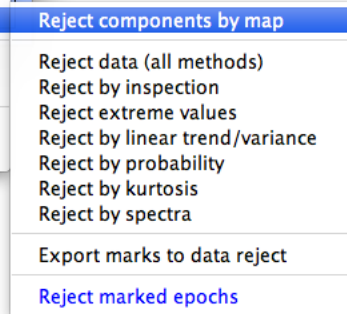
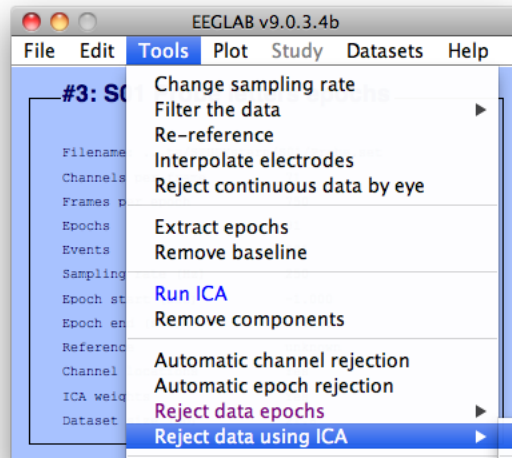
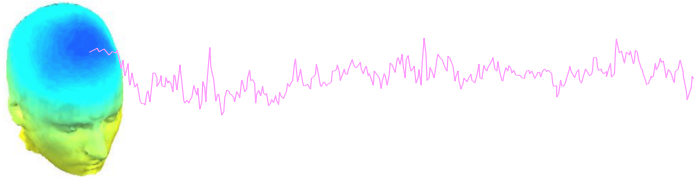
Plot the data

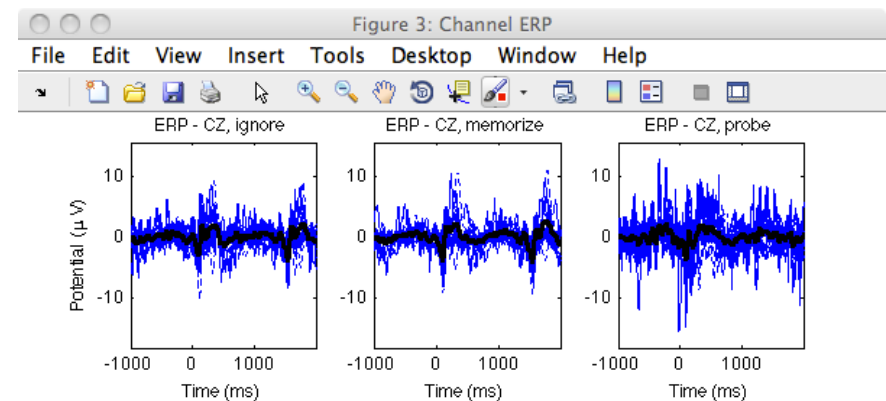
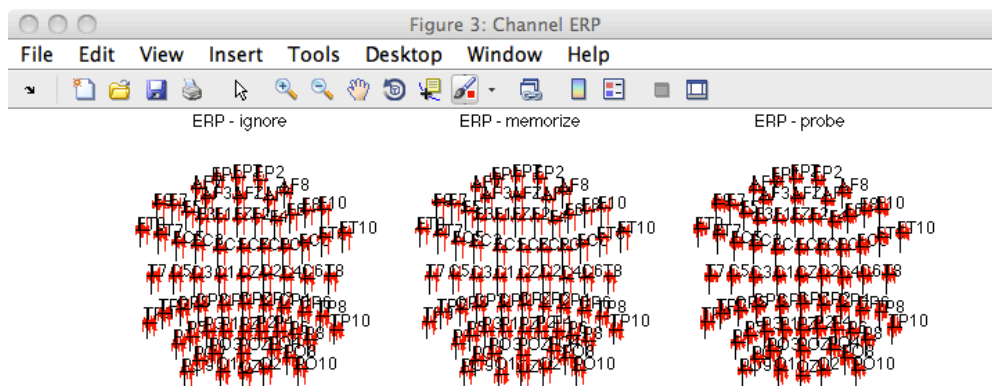
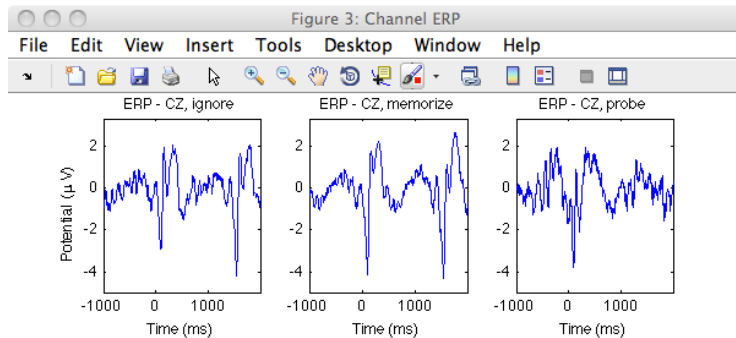
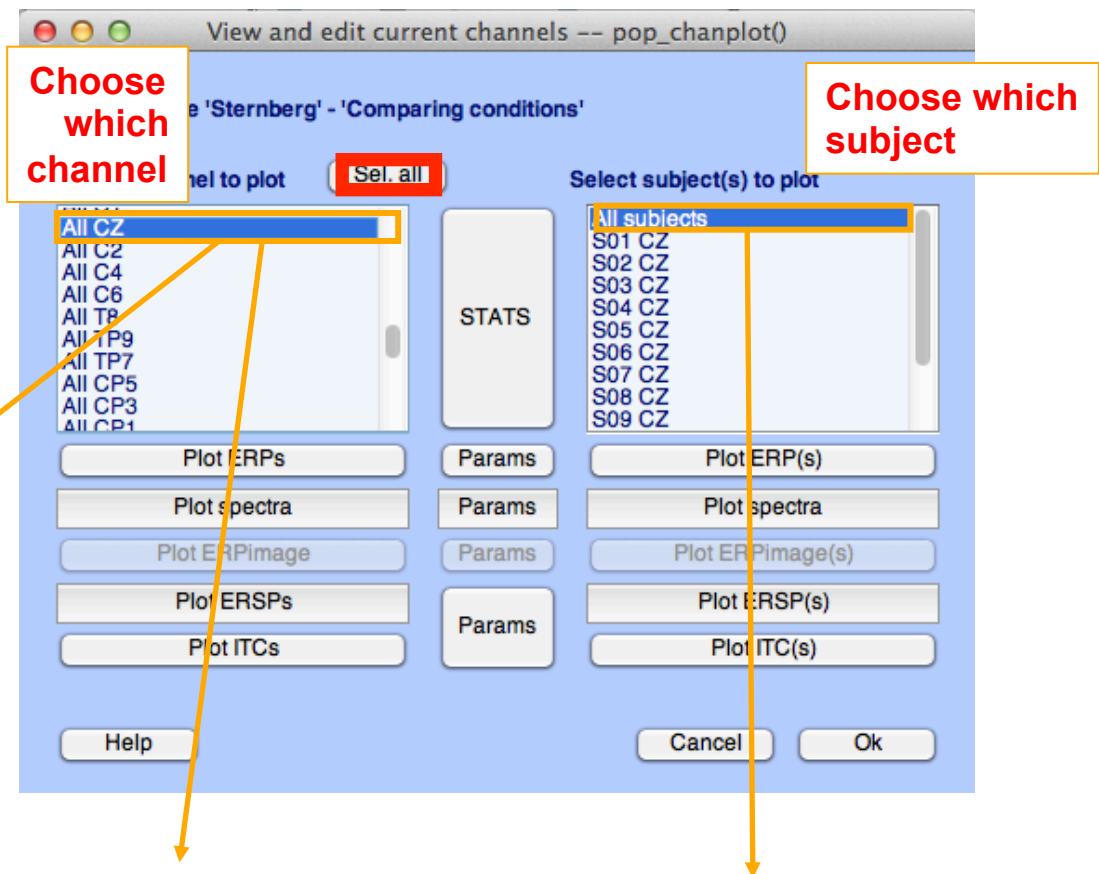
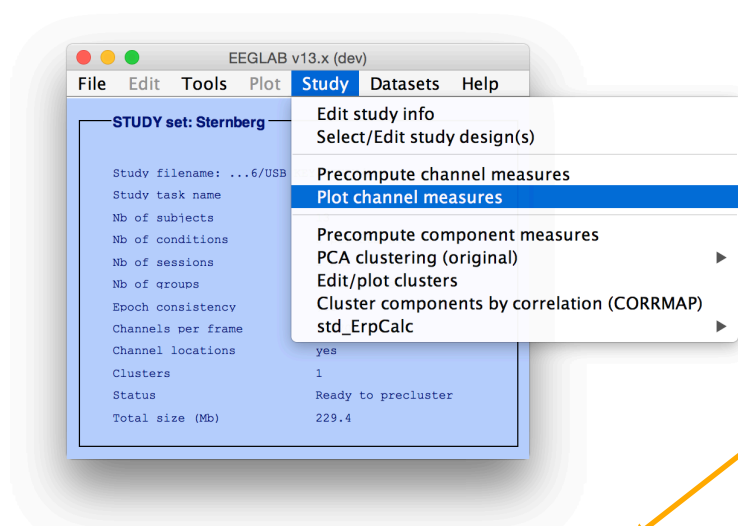
Exercise...

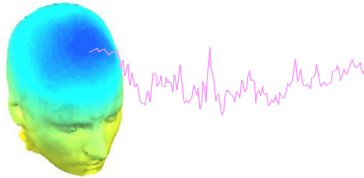


Precompute data measures









View and edit current channels -- pop_chanplot()

STUDY name 'Sternberg' - 'Comparing conditions'

Select channel to plot Sel. all

Select subject(s) to plot

STATS

Plot ERPs

Plot spectra

Plot ERPimage

Params

Params

Params

Params

Params

Plot ERSP(s)

Plot ITC(s)

Cancel

Ok

ERP plotting options -- pop_erppar...

ERP plotting options

Time limits (ms) [low high]

Plot limits [low high]

Lowpass plotted data [Hz]

ERP plotting format

☒ Plot first variable on the same panel

☐ Plot second variable on the same panel

Multiple channels selection

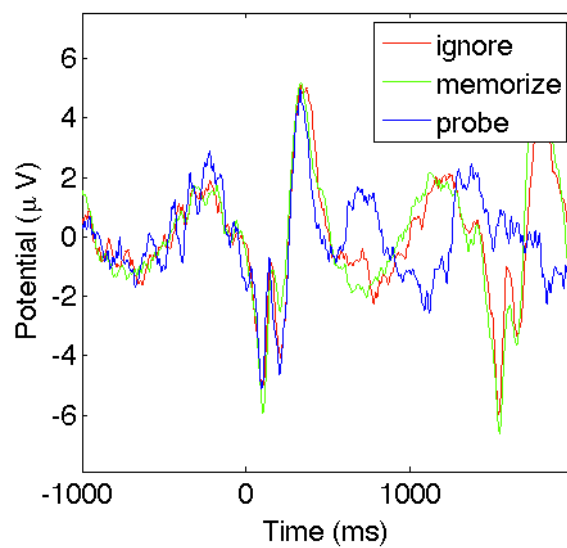
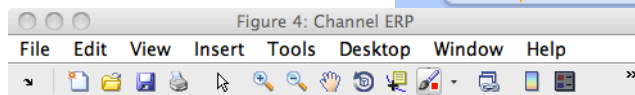
☐ Plot channels in scalp array

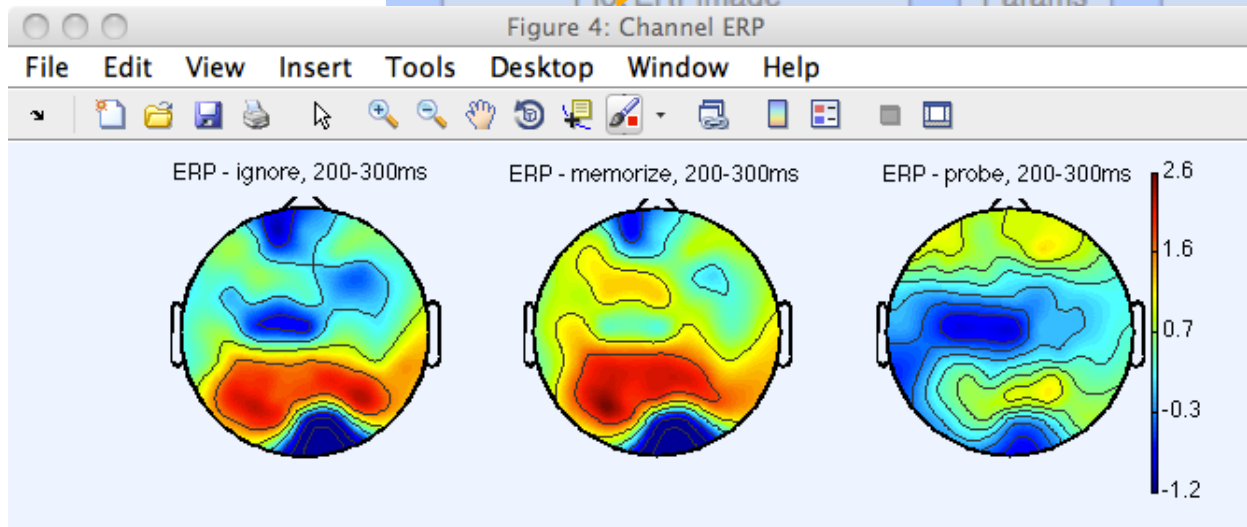
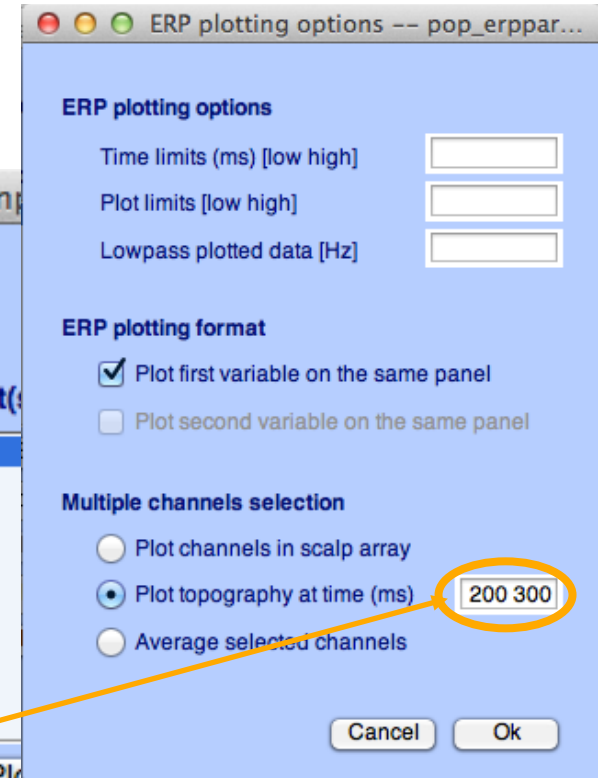
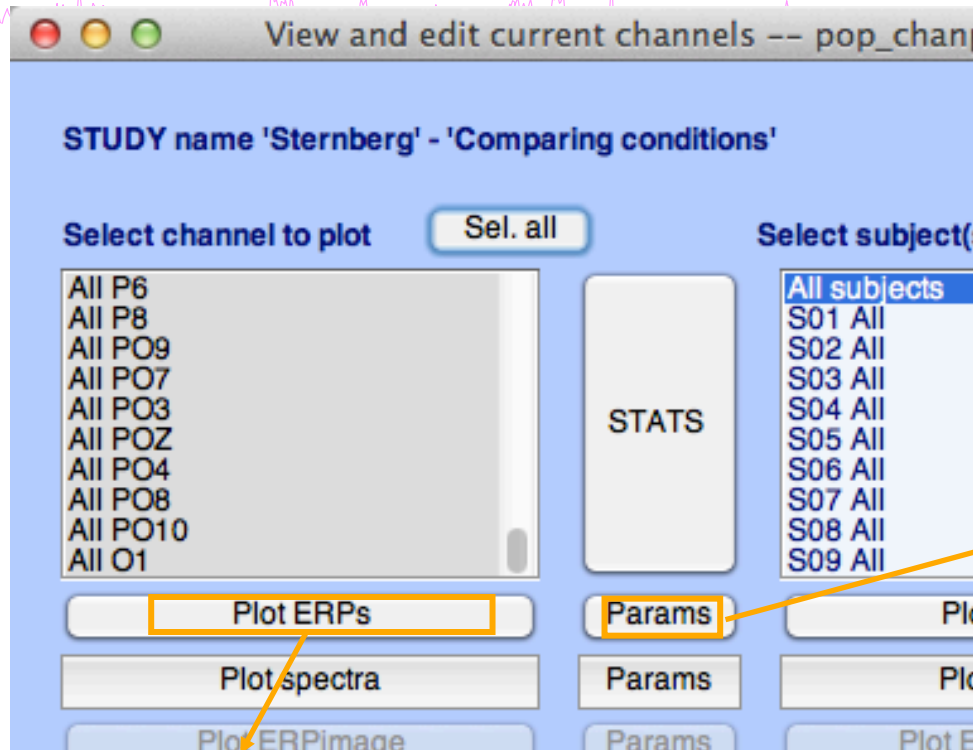
☒ Plot topography at time (ms) 200 300

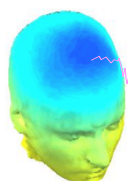
☐ Average selected channels

Cancel

Ok







View and edit current channels -- pop_chanp...

STUDY name 'Sternberg' - 'Comparing conditions'

Select channel to plot Sel. all Select subject(s)

All P6
All P8
All PO9
All PO7
All PO3
All POZ
All PO4
All PO8
All PO10
All O1

STATS

All subjects
S01 All
S02 All
S03 All
S04 All
S05 All
S06 All
S07 All
S08 All
S09 All

Plot ERPs
Plot spectra
Plot ERPimage

Params
Params
Params

Plot ERPimage(s)

ERP plotting options -- pop_erppar...

ERP plotting options

Time limits (ms) [low high]

Plot limits [low high]

Lowpass plotted data [Hz]

ERP plotting format

☒ Plot first variable on the same panel

☐ Plot second variable on the same panel

Multiple channels selection

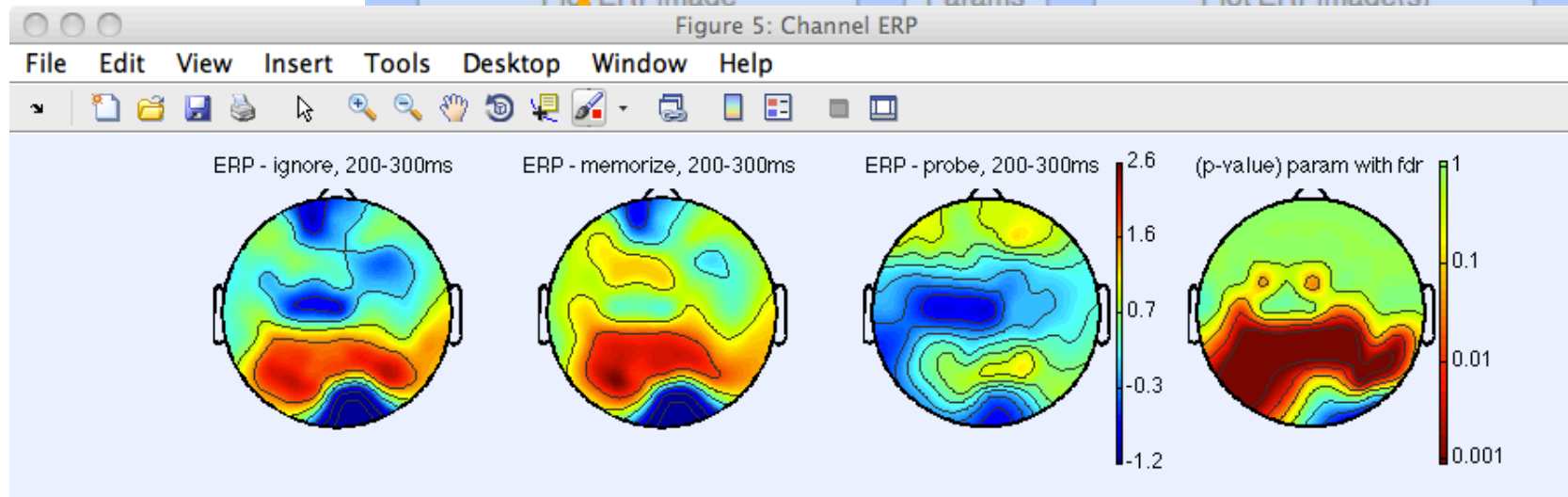
☐ Plot channels in scalp array

☒ Plot topography at time (ms)

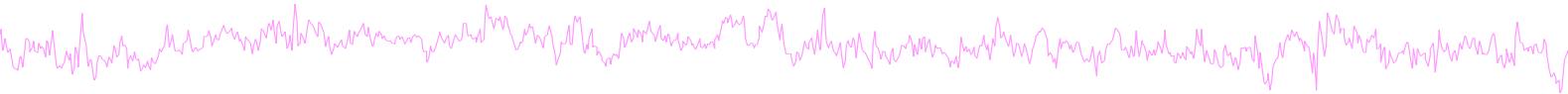
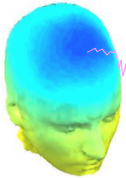
☐ Average selected channels

Cancel Ok

Figure 5: Channel ERP



Computing Spectrum



Select and compute component measures for later clustering -- pop_precomp()

Pre-compute channel measures for STUDY 'Sternberg' - 'STUDY.design 1'

Channel list (default:all) ...

☒ Spherical interpolation of missing channels (performed after optional ICA removal below)

☐ Remove ICA artifactual components pre-tagged in each dataset

☐ Remove artifactual ICA cluster or clusters (hold shift key)

ParentCluster 1
Cls 2
Cls 3
Cls 4

List of measures to precompute

☐ ERPs Baseline ((min max) in ms)

☒ Power spectrum Spectopo parameters Test

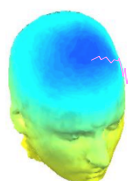
☐ ERSPs Time/freq. parameters Test

☐ ITCs

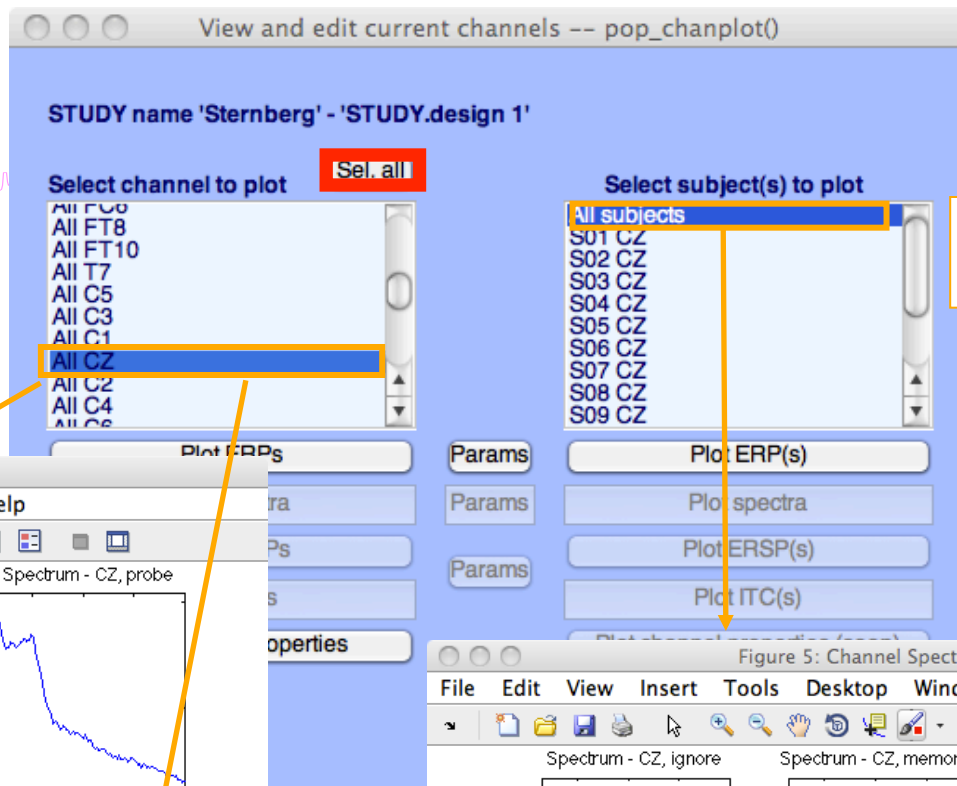
☐ Save single-trial measures for single-trial statistics - requires disk space

☐ Recompute even if present on disk

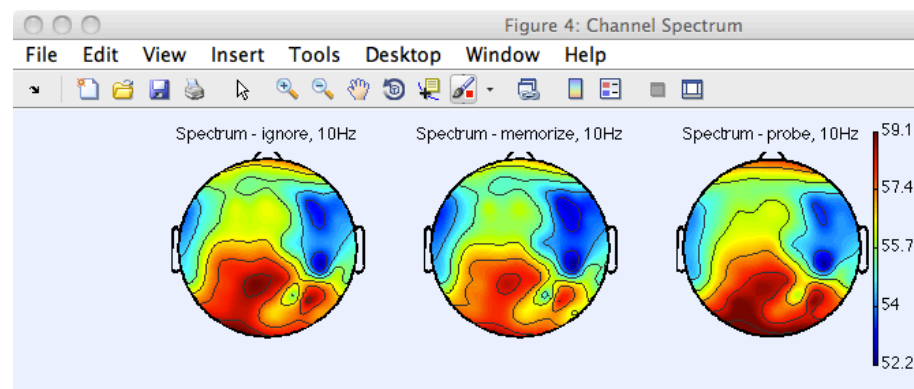
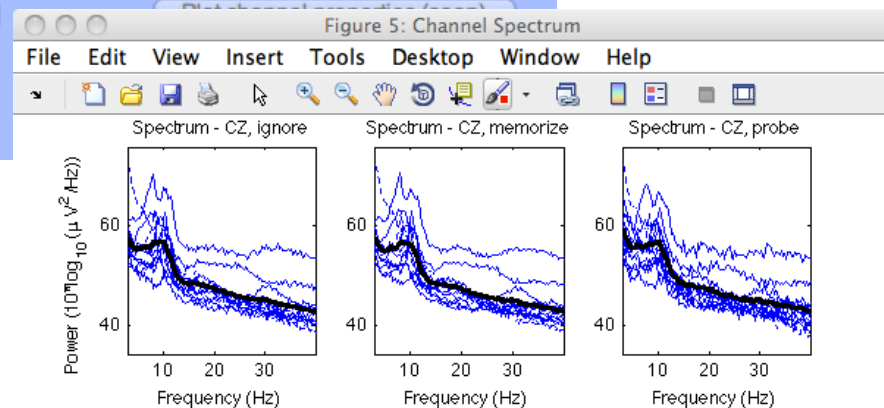
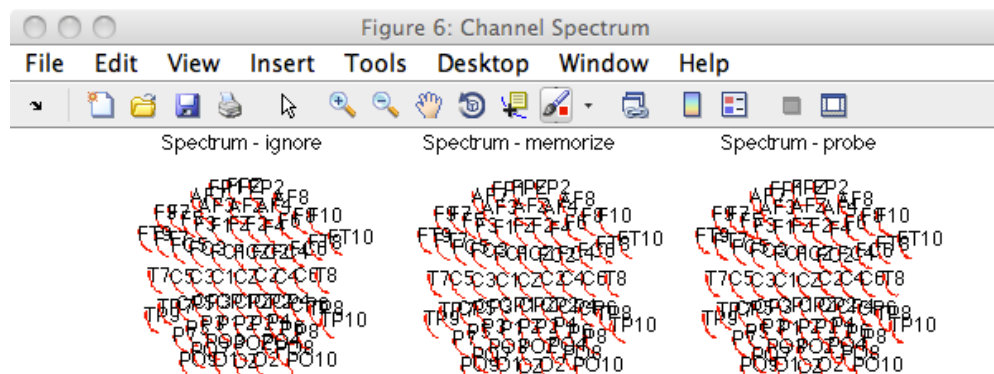
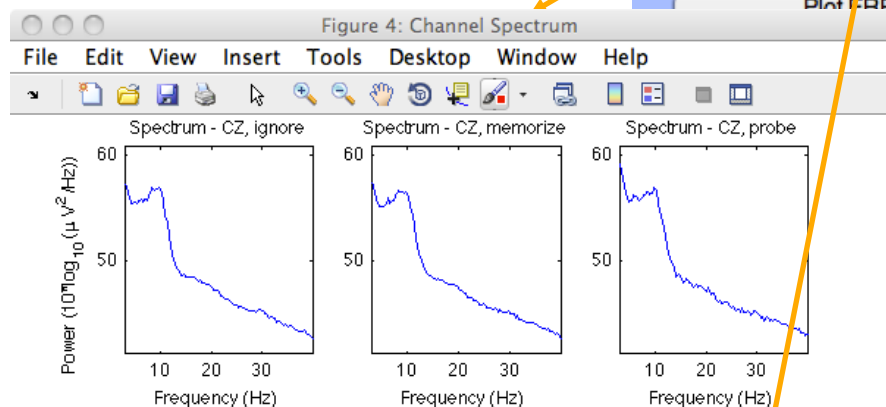
Help Cancel Ok



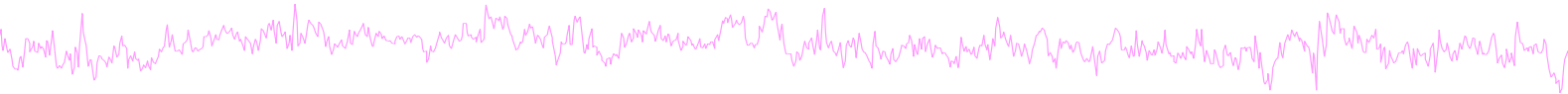
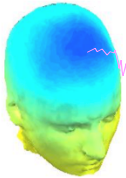
Choose which channel



Choose which subject



Computing ERSP



'cycles', [3 0.8], 'nfreqs', 50, 'ntimesout', 100

Select and compute component measures for later clustering -- pop_precomp()

Pre-compute channel measures for STUDY 'Sternberg' - 'Design 2'

Channel list (default:all) ...

☒ Spherical interpolation of missing channels (performed after optional ICA removal below)

☐ Remove ICA artifactual components pre-tagged in each dataset

☐ Remove artifactual ICA cluster or clusters (hold shift key)

ParentCluster 1
Cls 2
Cls 3
Cls 4

List of measures to precompute

☐ ERPs Baseline ([min max] in ms)

☐ Power spectrum Spectopo parameters Test

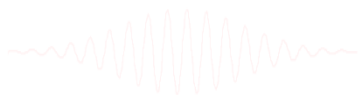
☒ ERSPs Time/req. parameters Test

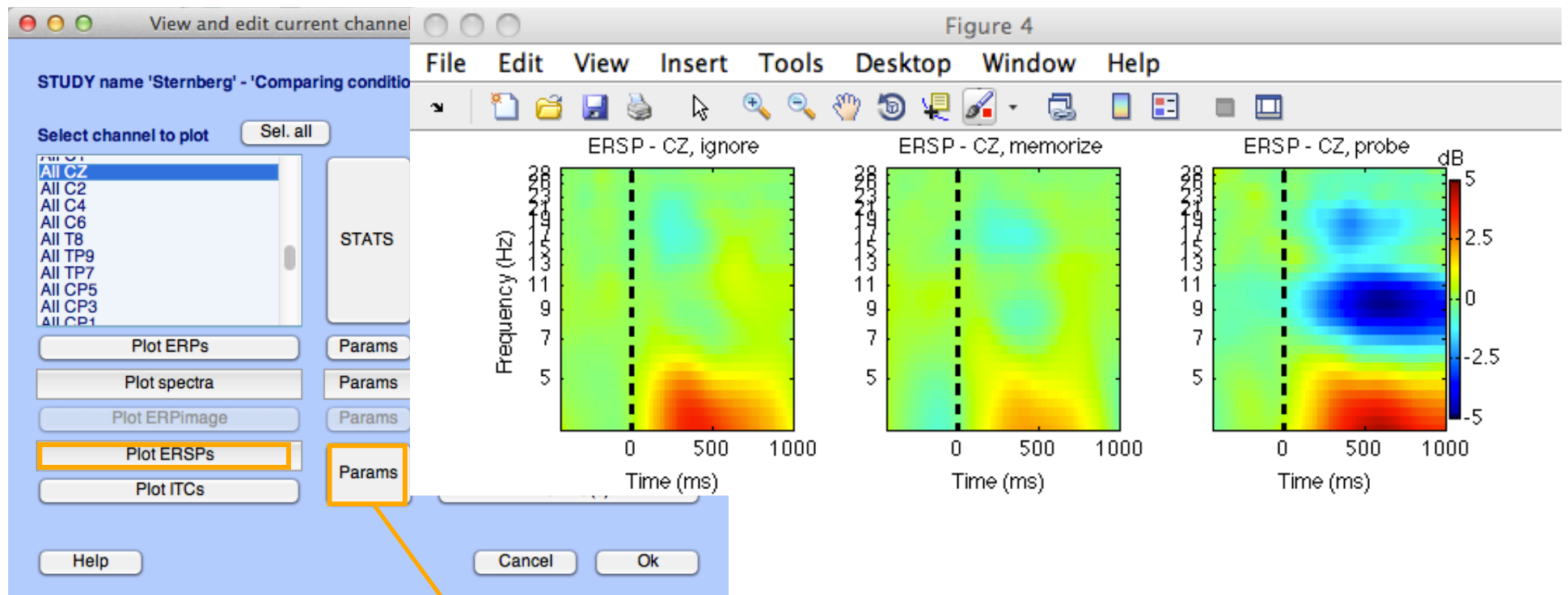
☐ ITCs

☐ Save single-trial measures for single-trial statistics - requires disk space

☐ Recompute even if present on disk

Help Cancel Ok





Set ERSP/ITC plotting parameters -- pop_erspparams()

ERSP/ITC plotting options

Time range in ms [Low High] -500 1000

Freq. range in Hz [Low High] 3 30

Power limits in dB [Low High]

☐ Compute common ERSP baseline (assumes additive baseline)

Plot scalp map at time [ms]

Plot scalp map at freq. [Hz]

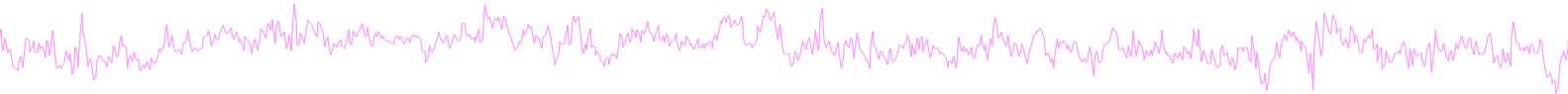
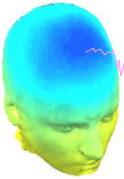
ITC limit (0-1) [High]

Cancel

Ok

This dialog box, titled 'Set ERSP/ITC plotting parameters -- pop_erspparams()', contains several input fields and a checkbox. The 'Time range in ms [Low High]' field is set to '-500 1000'. The 'Freq. range in Hz [Low High]' field is set to '3 30'. The 'Power limits in dB [Low High]' field is empty. A checkbox labeled 'Compute common ERSP baseline (assumes additive baseline)' is unchecked. To the right, there are three empty input fields for 'Plot scalp map at time [ms]', 'Plot scalp map at freq. [Hz]', and 'ITC limit (0-1) [High]'. At the bottom right are 'Cancel' and 'Ok' buttons. An orange arrow from the 'Params' button in the top window points to the 'Time range in ms' field.

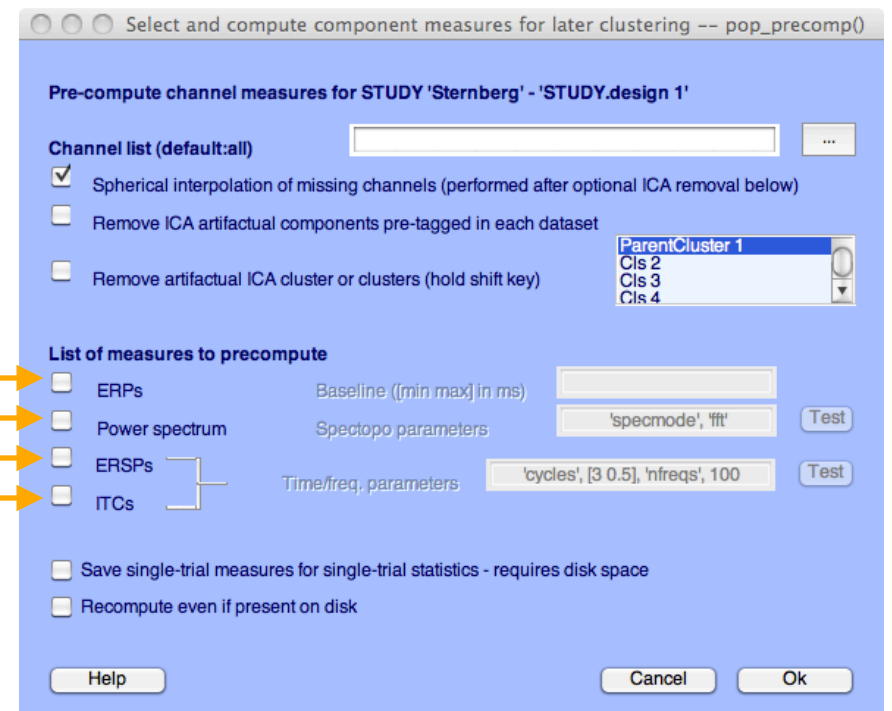
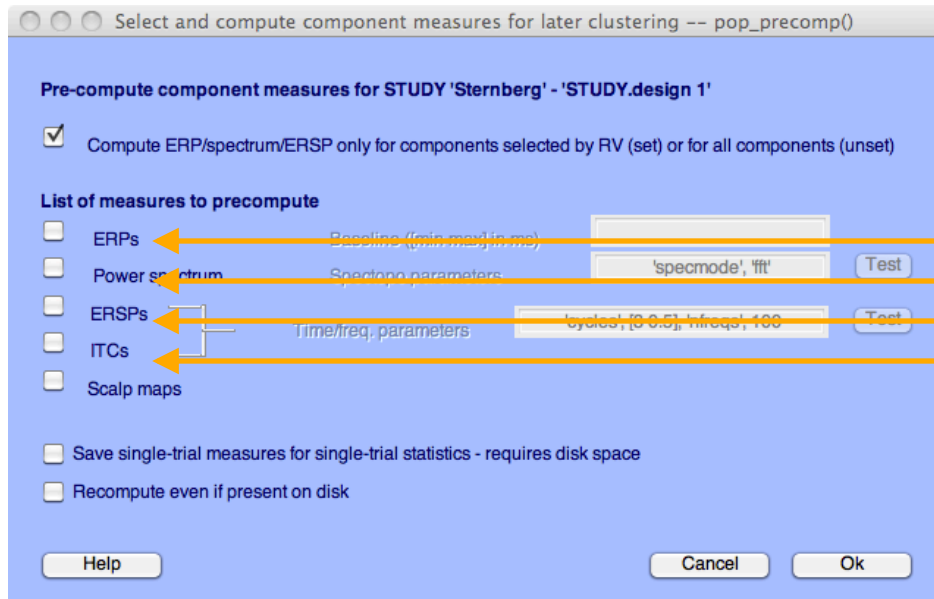
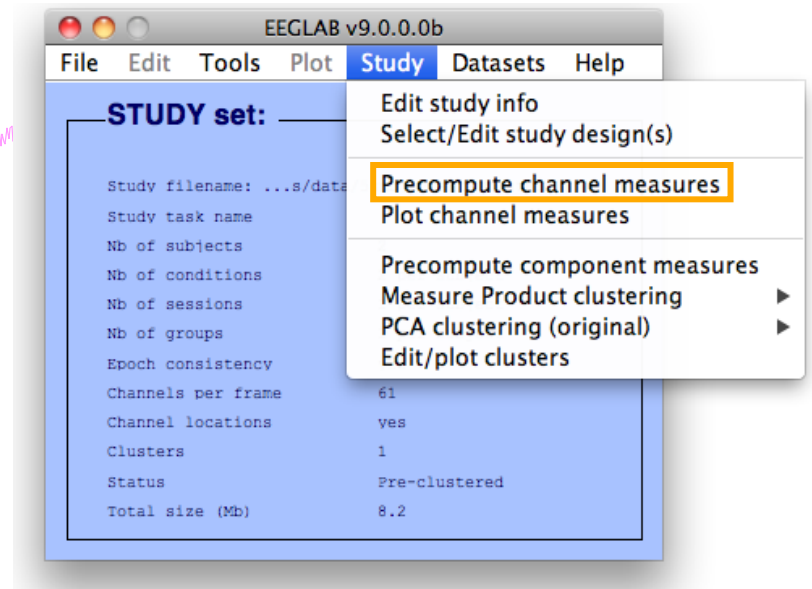
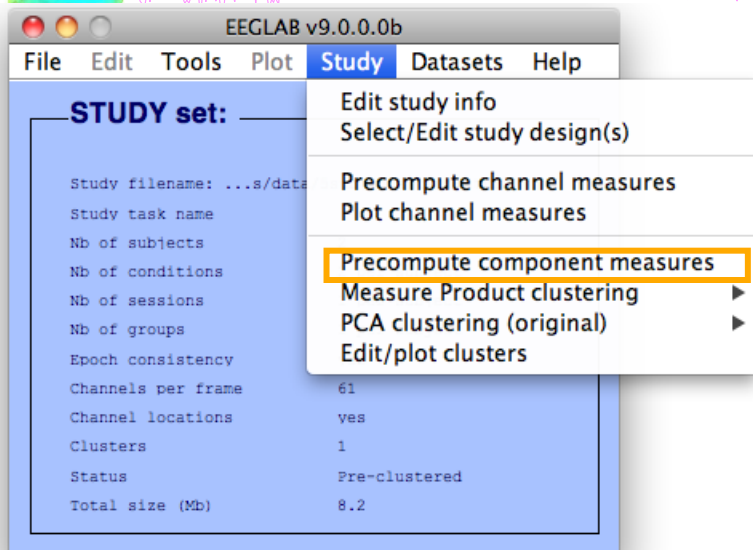
Exercises



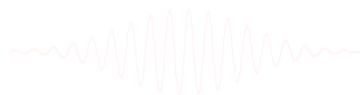
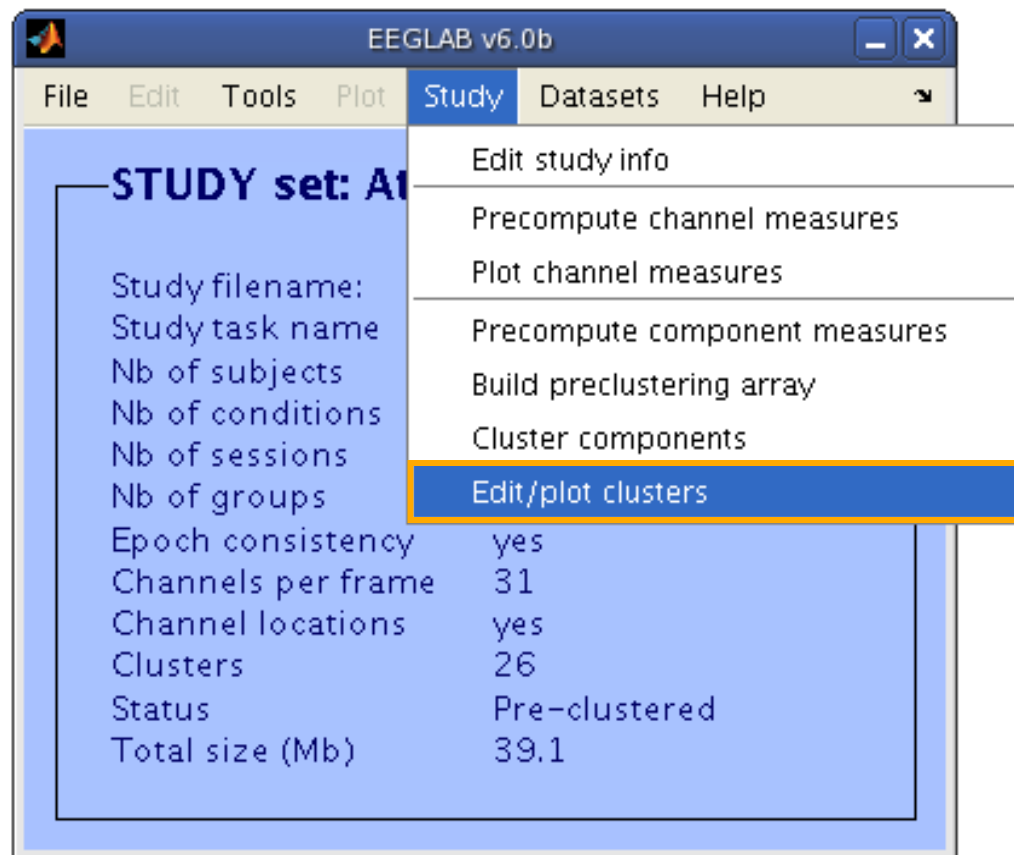
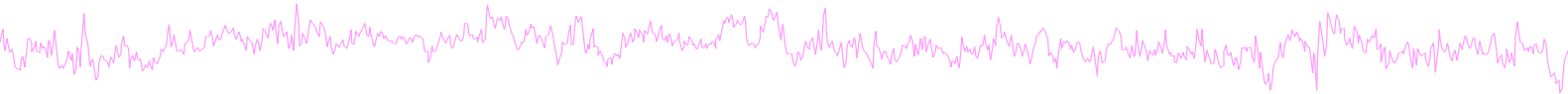
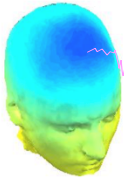
1. Load “stern.study” file in STUDY folder or
 1. From the GUI, select “File > Create STUDY > Browse for datasets”
 2. Load ignore, memorize, probe datasets for S01 to S13 (in the STUDY folders S01....)
2. Create a new STUDY design to compare two types of conditions
 - Ignore letter **grouped** with Memorize letter
 - Probe letters
3. Recompute spectrum and plot spectrum for electrode Fz
4. Plot scalp topography at 10 Hz for both conditions



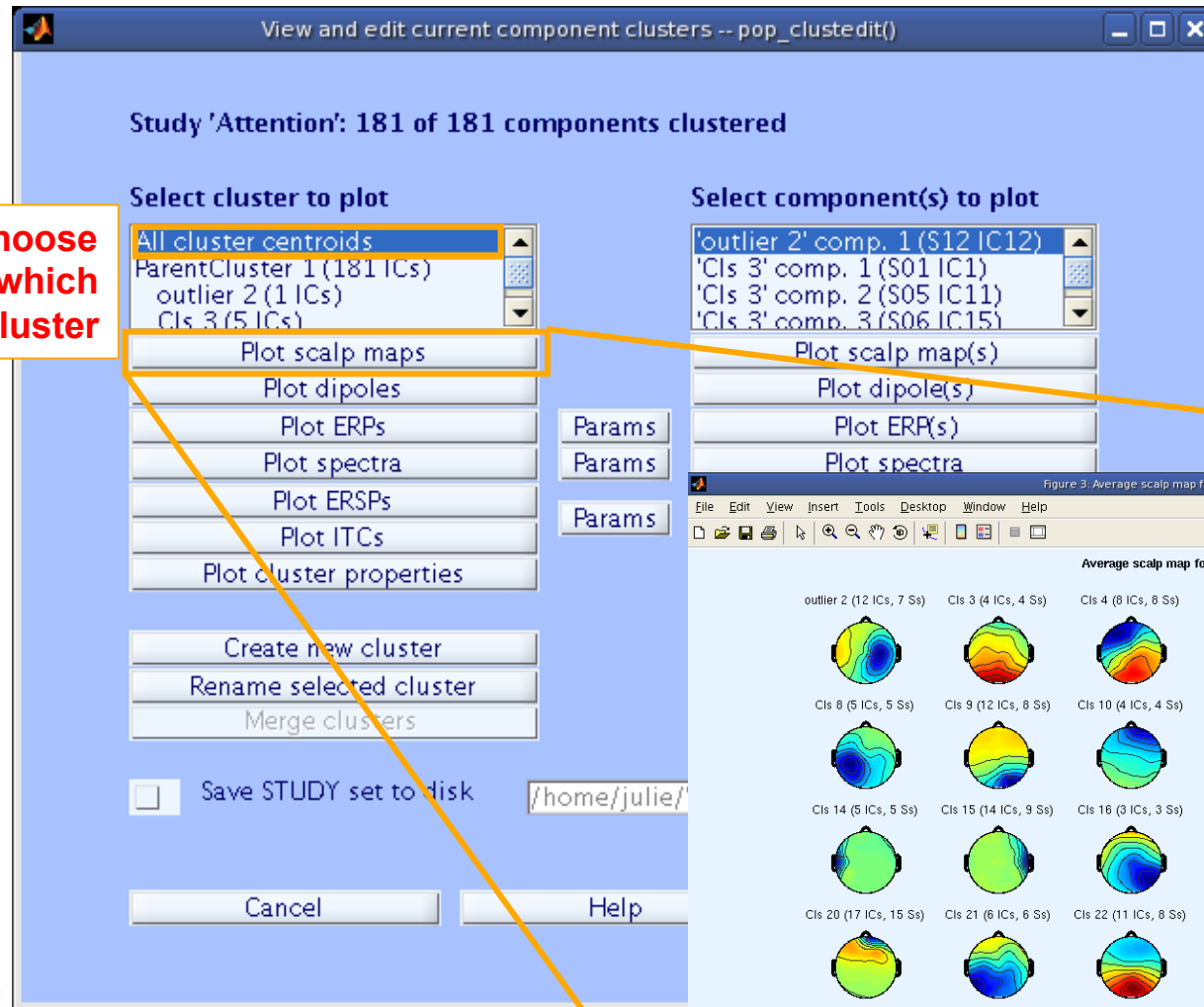
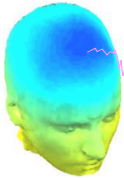
Pre-compute measures



View and edit clusters

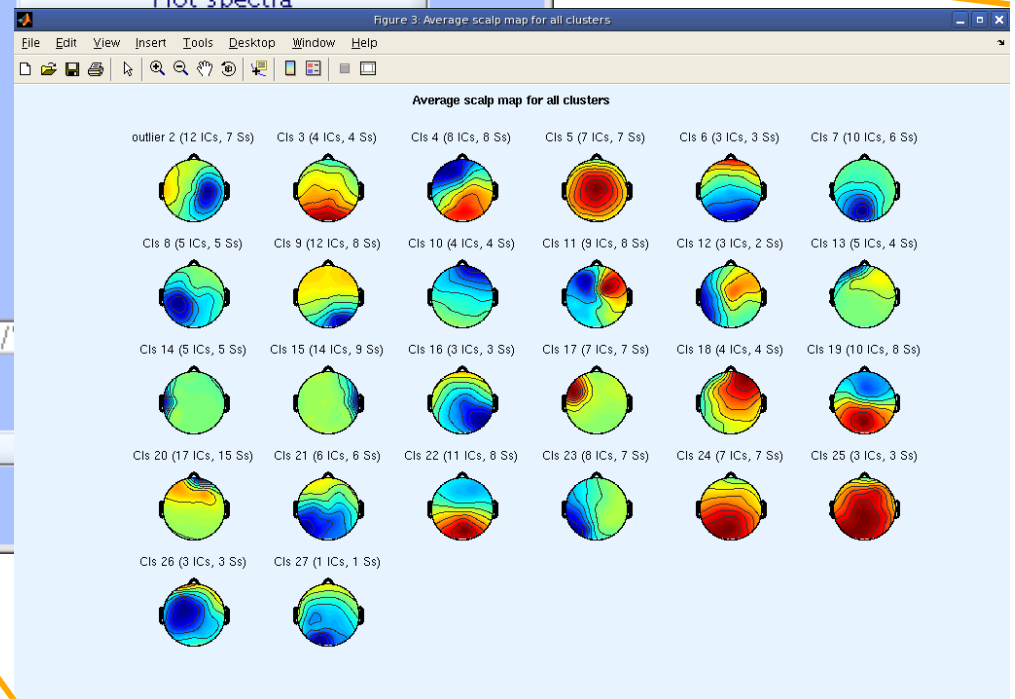


Plot cluster data

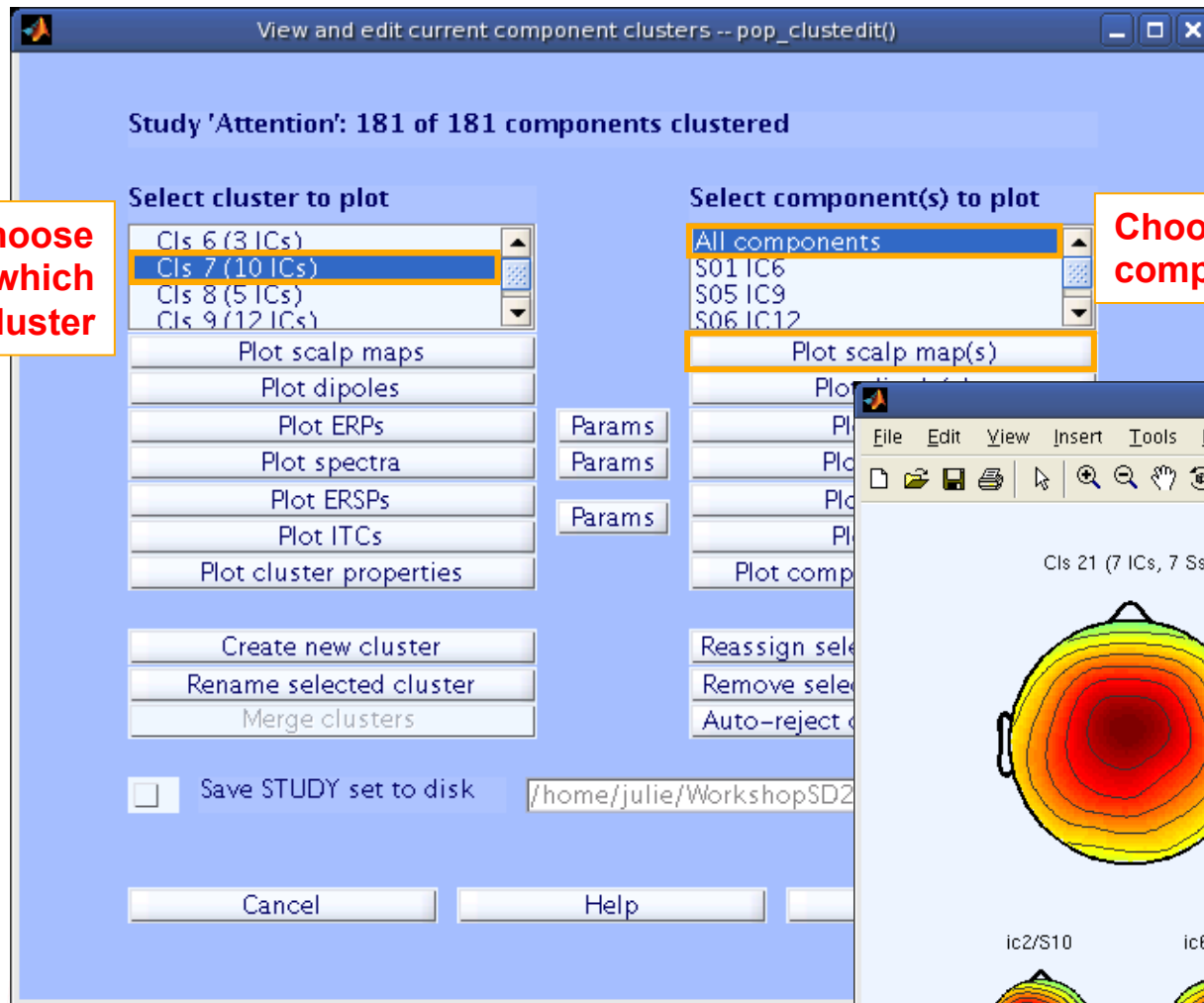
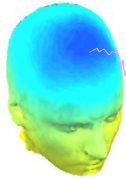


Choose
which
cluster

Plot mean scalp
maps for easy
reference

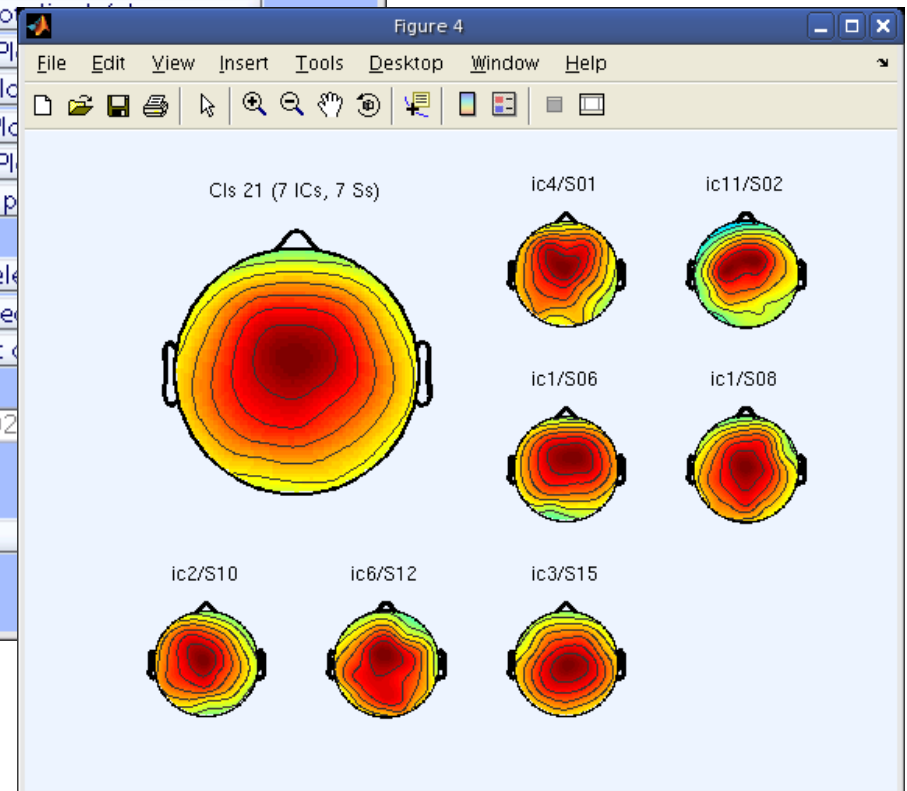


Plot cluster data

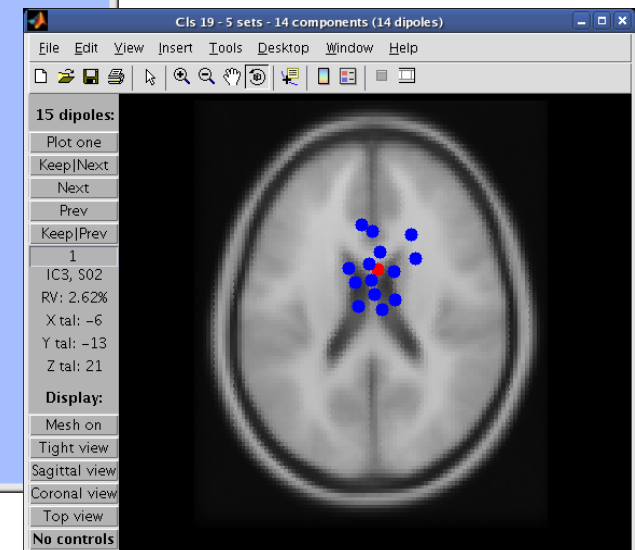
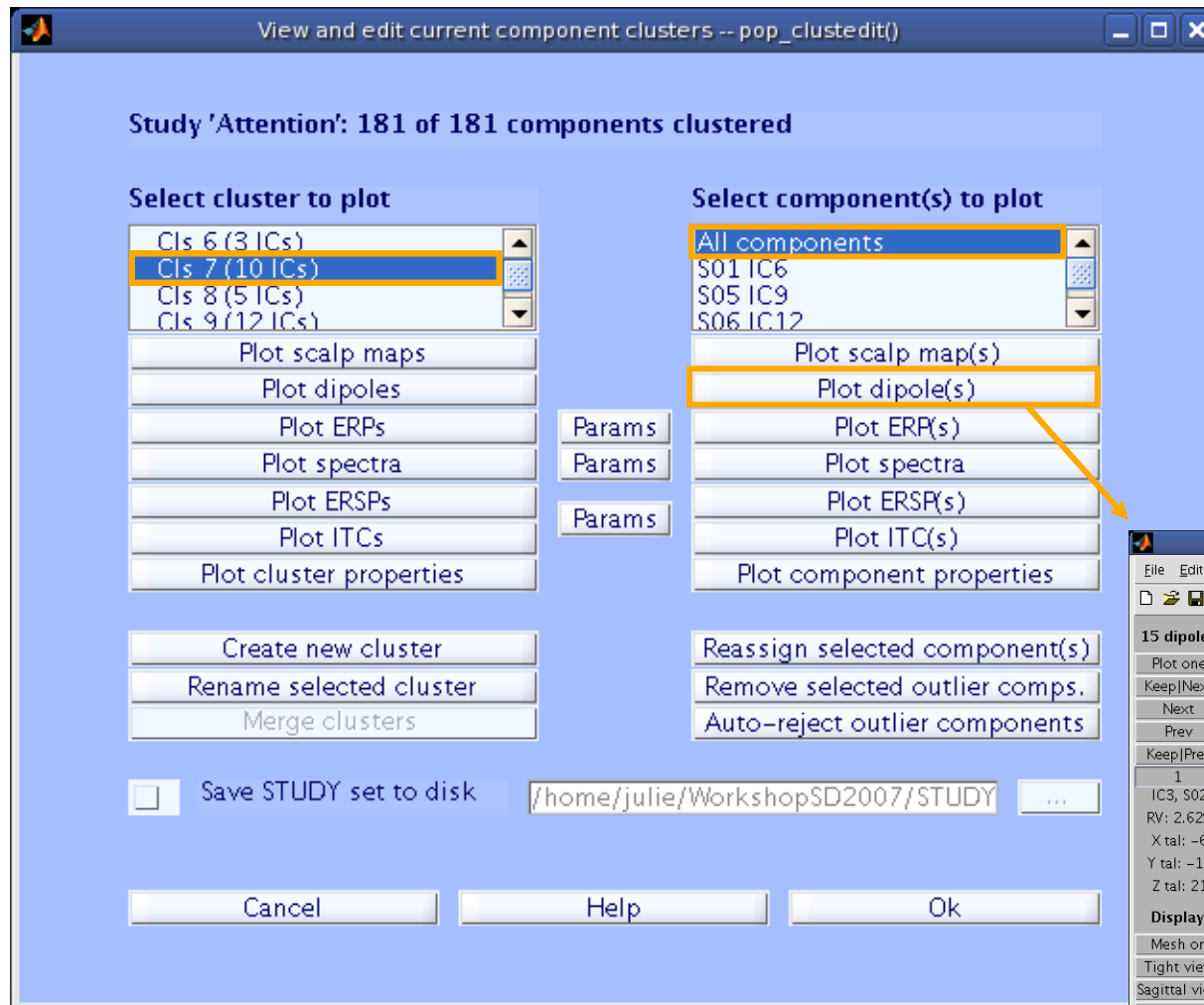
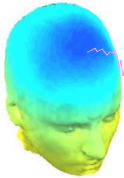


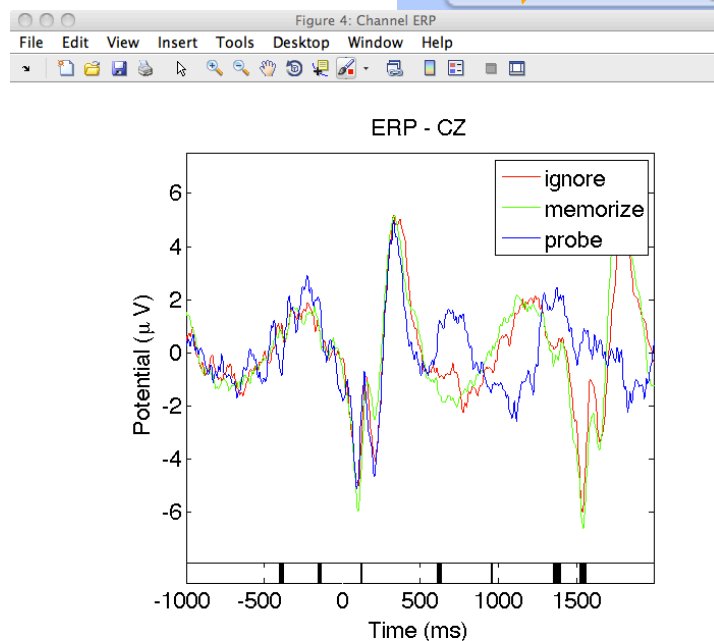
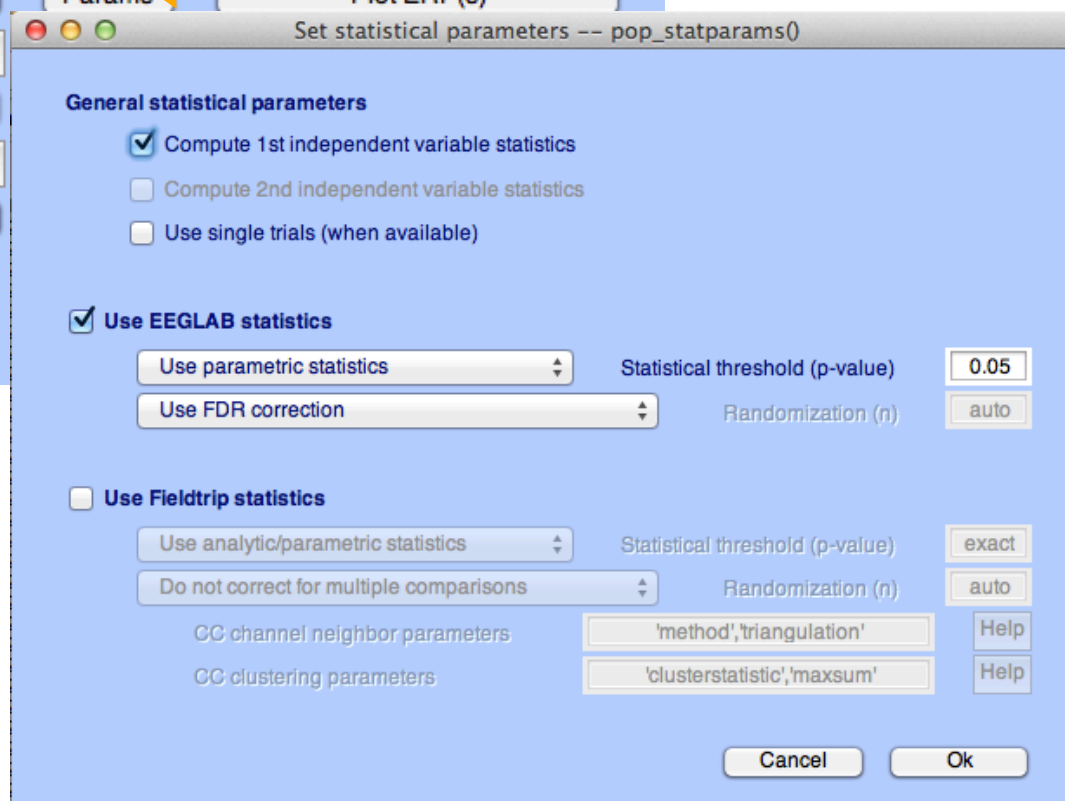
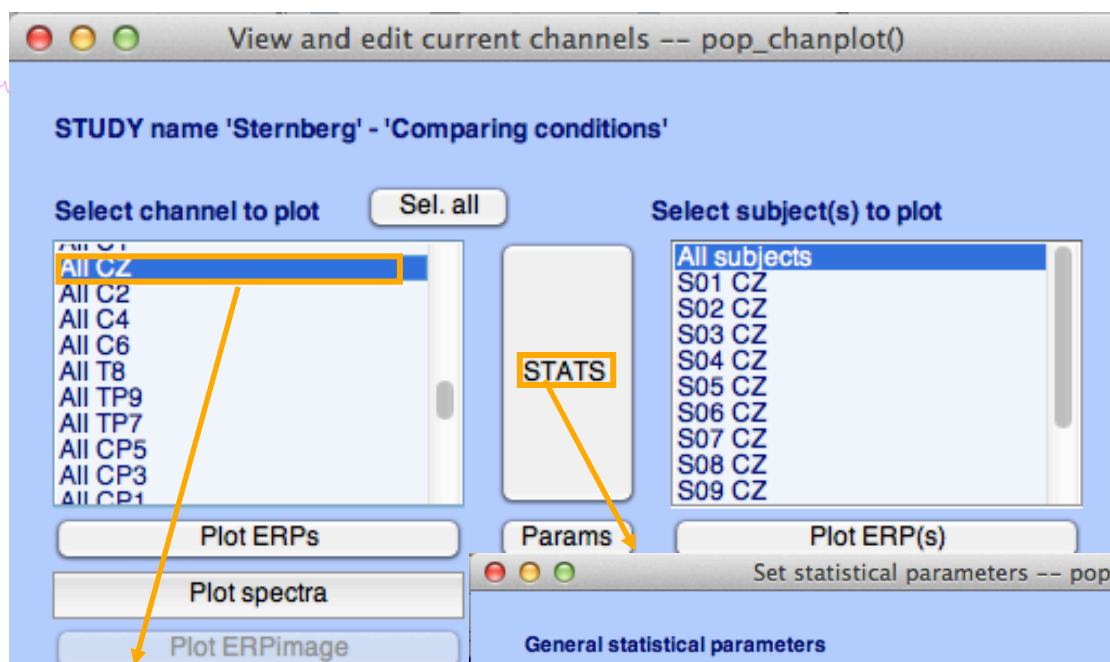
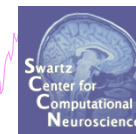
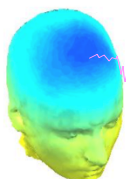
Choose which cluster

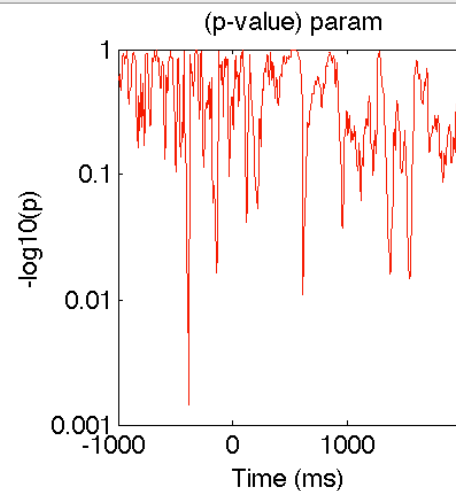
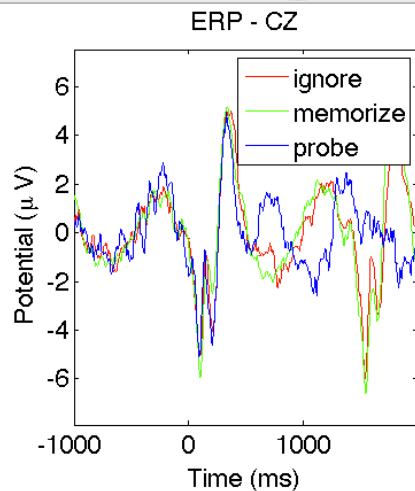
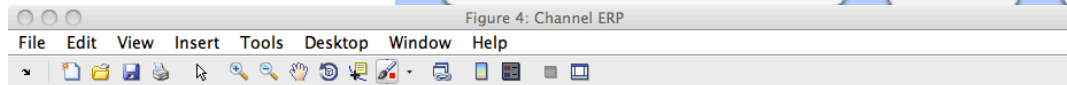
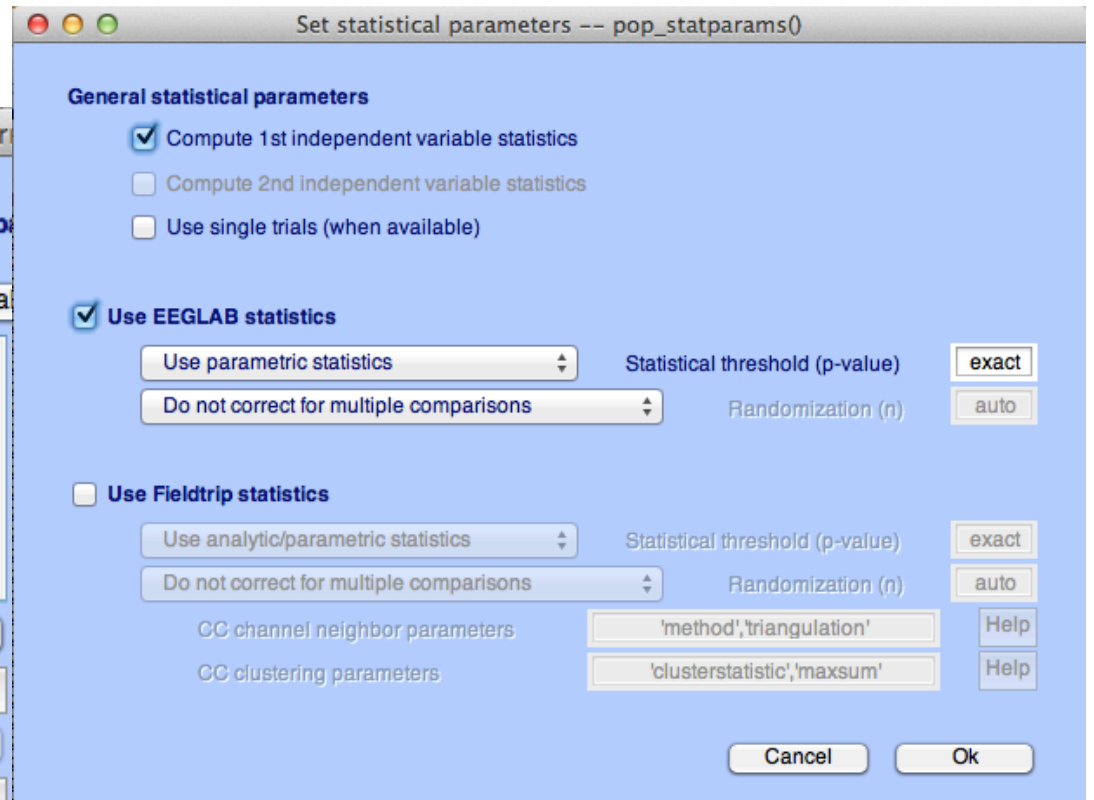
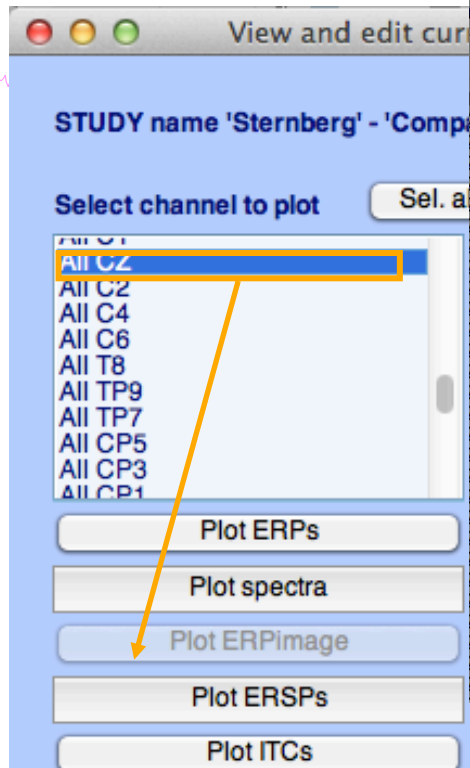
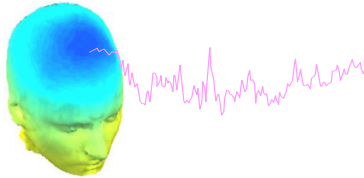
Choose which components



Plot cluster data







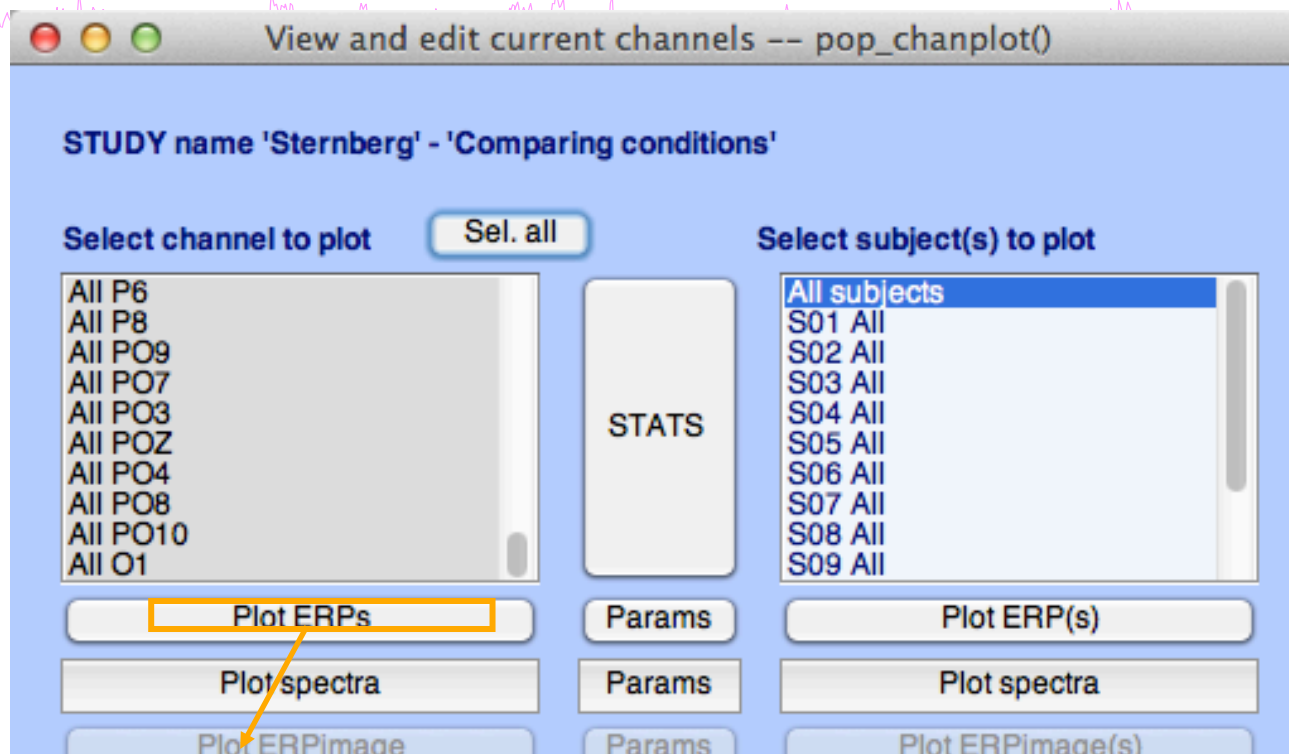
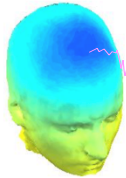
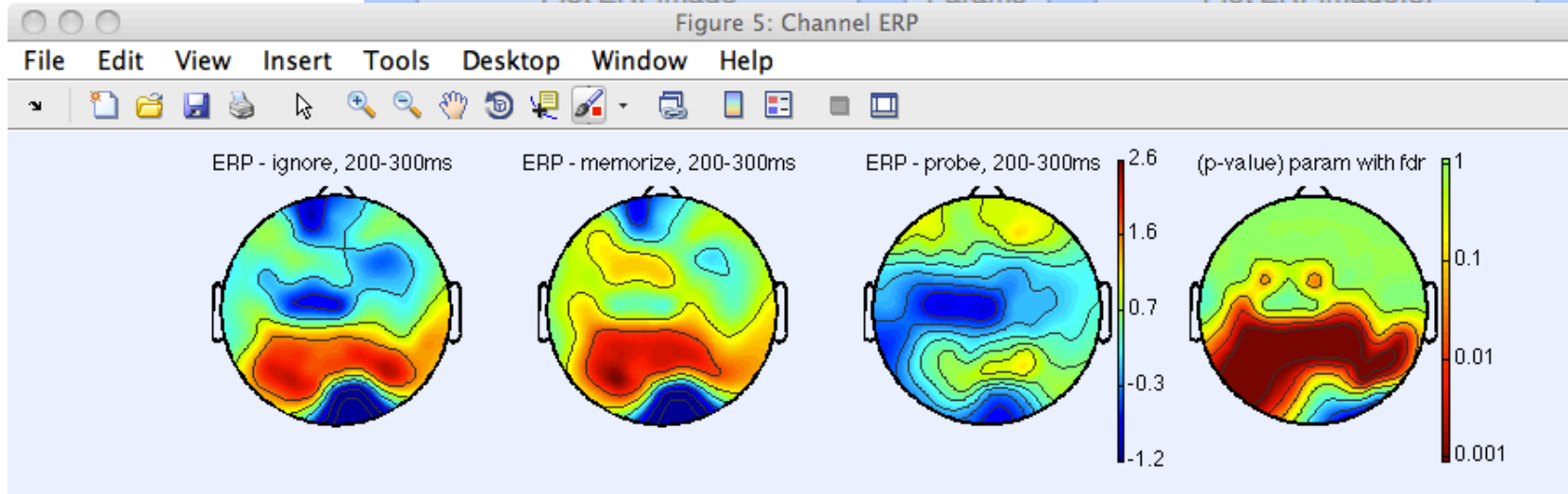
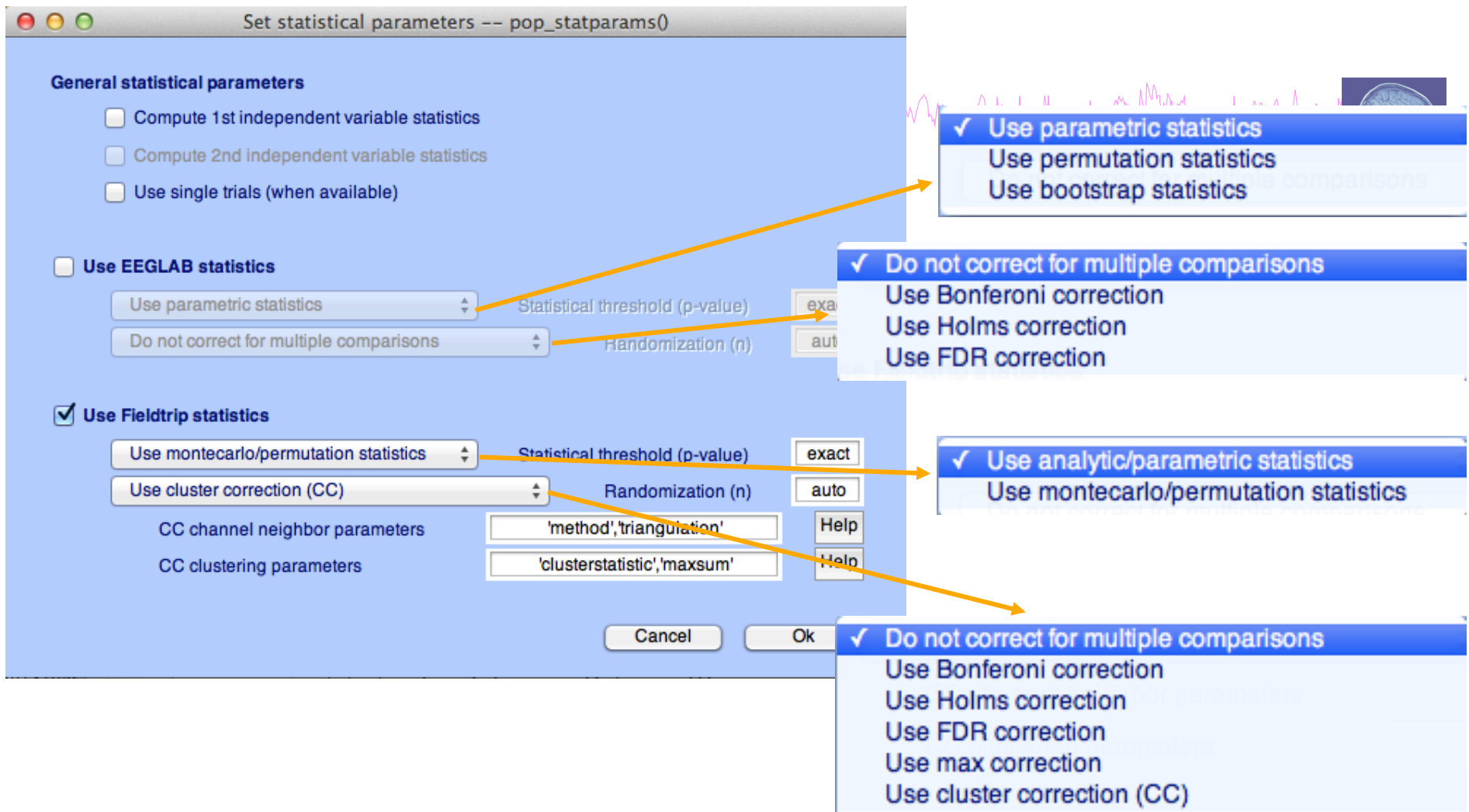
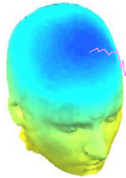


Figure 5: Channel ERP





std_stat() function in EEGLAB



Use single trials



Select and compute component measures for later clustering -- pop_precomp()

Pre-compute channel measures for STUDY 'Sternberg' - 'STUDY.design 1'

Channel list (default:all) ...

☒ Spherical interpolation of missing channels (performed after optional ICA removal below)

☐ Remove ICA artifactual components pre-tagged in each dataset

☐ Remove artifactual ICA cluster or clusters (hold shift key)

ParentCluster 1
Cls 2
Cls 3
Cls 4

List of measures to precompute

☐ ERPs Baseline ([min max] in ms)

☐ Power spectrum Spectopo parameters Test

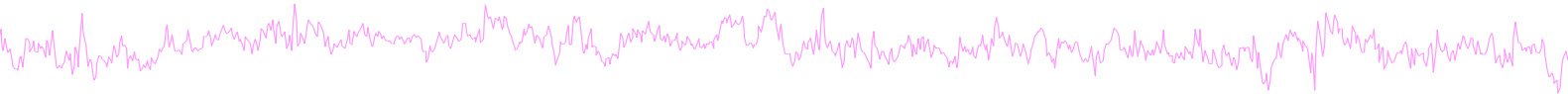
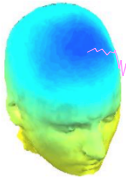
☐ ERSPs ☐ ITCs } Time/freq. parameters Test

☒ Save single-trial measures for single-trial statistics - requires disk space

☐ Recompute even if present on disk

Help Cancel Ok

Exercices



Experiment with STUDY statistics

1. Load the Stern STUDY
2. Look at significant difference in the first default design or the second design created in the previous exercise in all channel (spectrum)
3. using first parametric EEGLAB methods (and FDR correction for multiple comparisons)
4. then using the cluster method (Fieldtrip – statistics)

