Supplementary information

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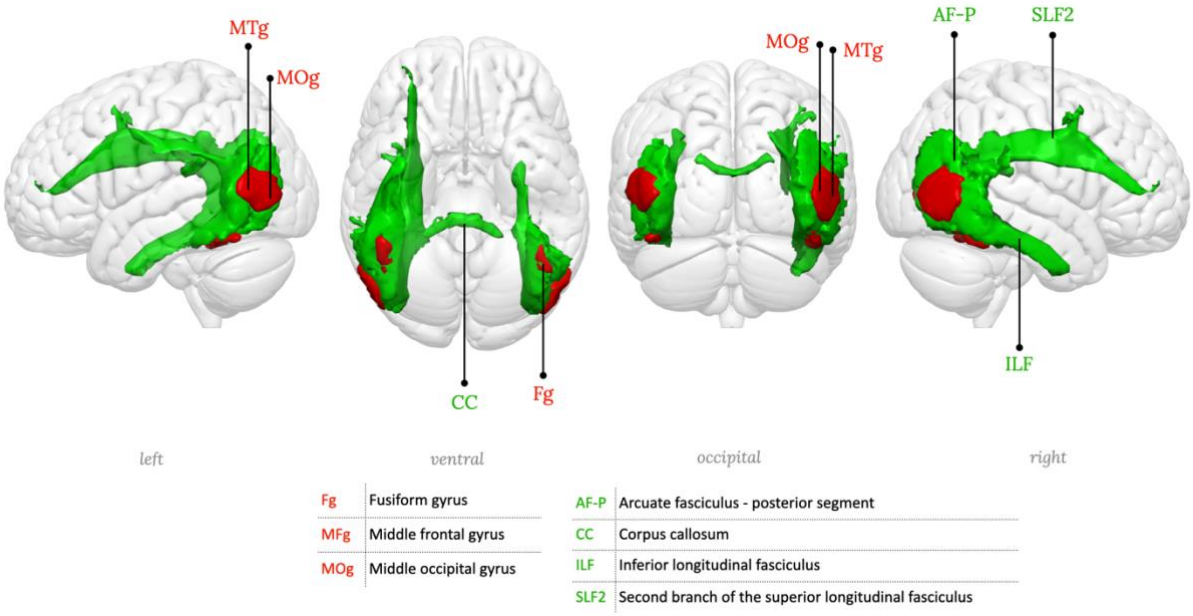
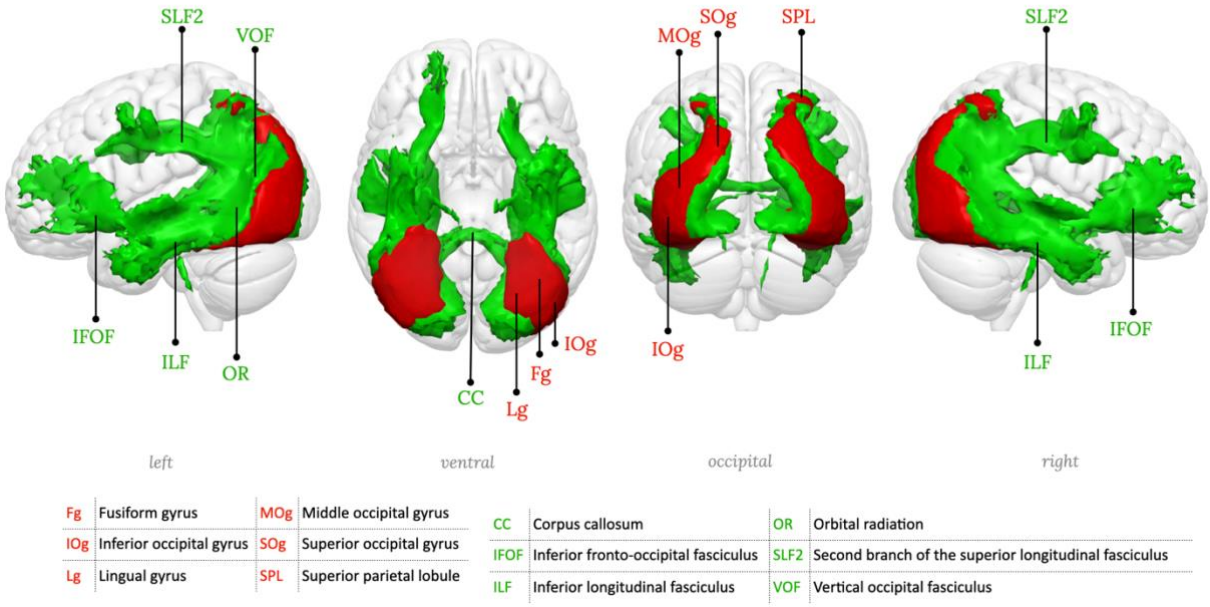
WhiteRest atlas anatomical labelling

We provide a detailed anatomical labelling (white and grey matter) of each resting-state network. The RSNs are displayed in 3D, with a "glass brain" effect to show both grey and white matter parts of the RSNs. Multiple views of each RSN are given, with the orientation noted in grey under each view.
In the figures, the grey matter part of the RSN, showed in red, was annotated using the Atlas of Human Brain Connections[1]. Likewise, the white matter part of the RSN showed in green was annotated using the atlas derived from Rojkova et al. (2016)[2]. The labelling was done manually and checked by multiple experts (VN, SF, MTdS, MJ).



Supplementary figure 1: RSN01, Lateral occipital network

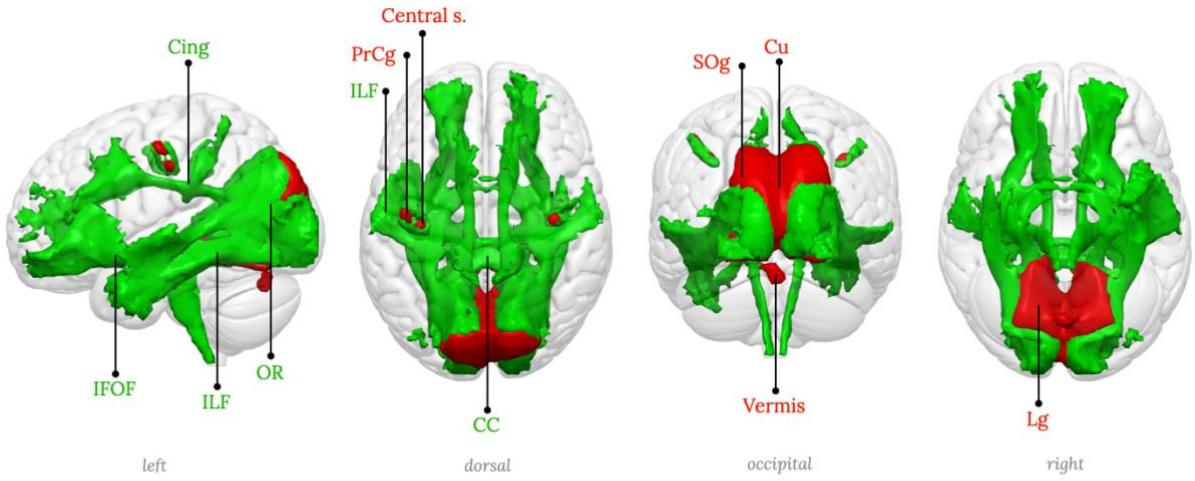
[1] M. Catani, M. Thiebaut de Schotten (2012). DOI: 10.1093/med/9780199541164.001.0001
[2] K. Rojkova et al. (2016). DOI: 10.1007/s00429-015-1001-3. Atlas available at http://www.bcblab.com/BCB/Atlas_of_Human_Brain_Connections.html



Fg	Fusiform gyrus	MOg	Middle occipital gyrus
IOg	Inferior occipital gyrus	SOg	Superior occipital gyrus
Lg	Lingual gyrus	SPL	Superior parietal lobule

CC	Corpus callosum	OR	Orbital radiation
IFOF	Inferior fronto-occipital fasciculus	SLF2	Second branch of the superior longitudinal fasciculus
ILF	Inferior longitudinal fasciculus	VOF	Vertical occipital fasciculus

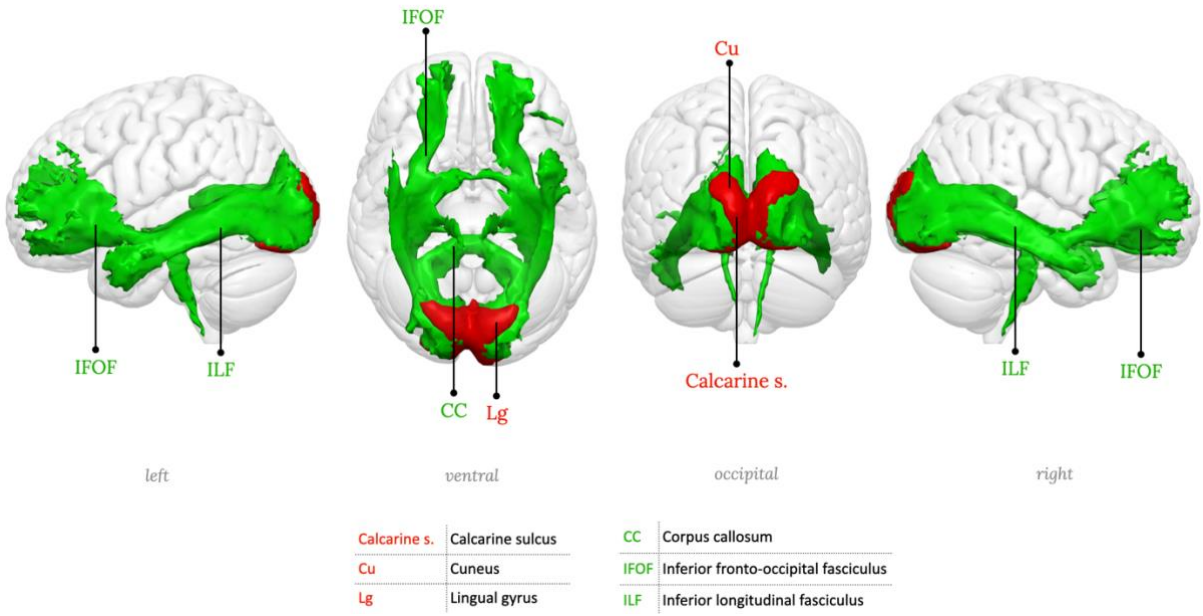
Supplementary figure 2: RSN02, Lateral posterior occipital network



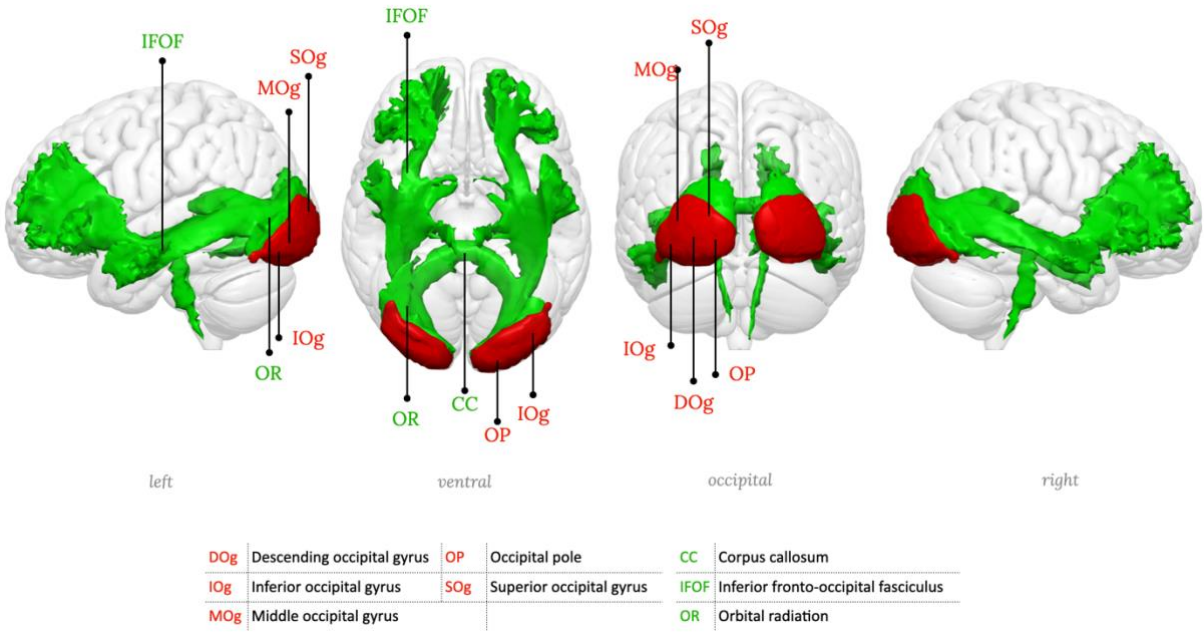
Central s.	Central sulcus	PrCg	Precentral gyrus
Cu	Cuneus	SOg	Superior occipital gyrus
Lg	Lingual gyrus		

CC	Corpus callosum	ILF	Inferior longitudinal fasciculus
Cing	Cingulum	OR	Orbital radiation
IFOF	Inferior fronto-occipital fasciculus		

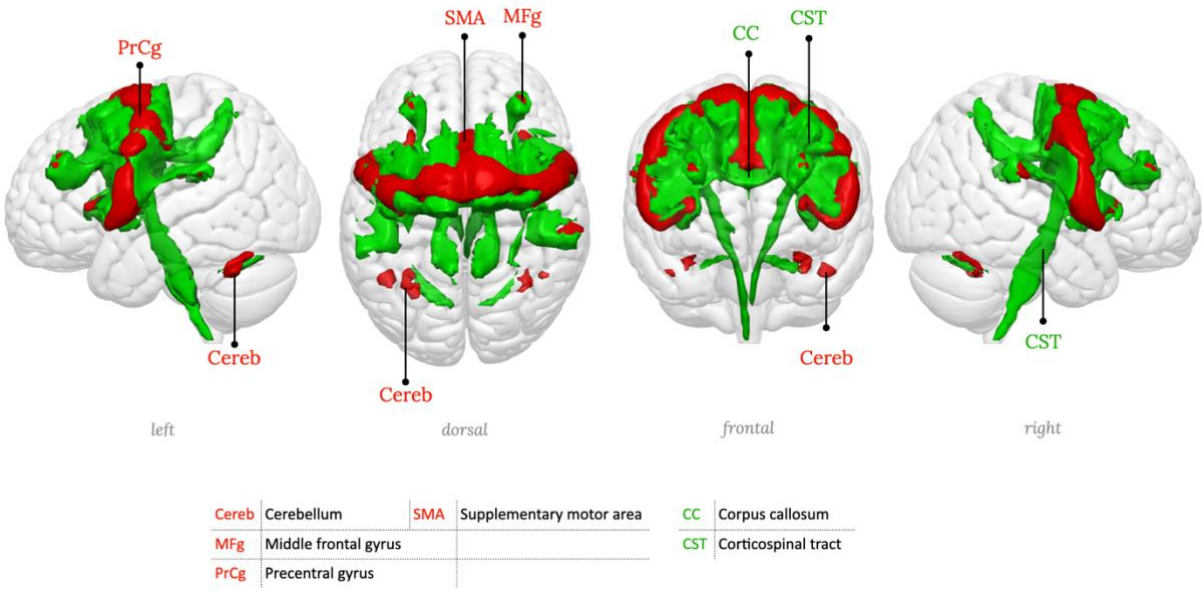
Supplementary figure 3: RSN03, Medial occipital network



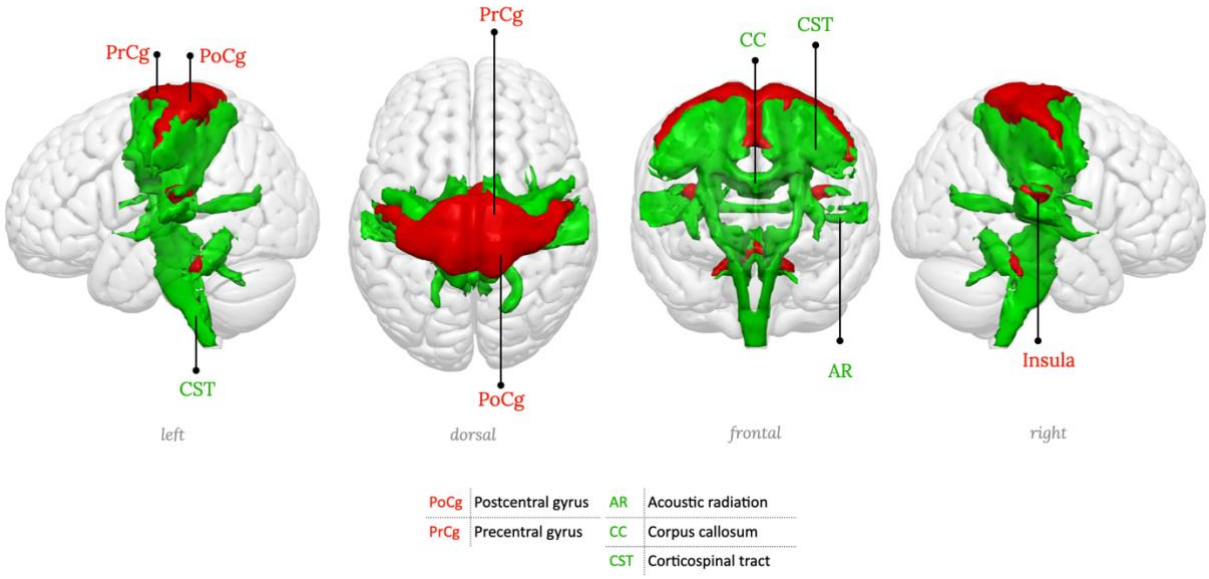
Supplementary figure 4: RSN04, Medial posterior occipital network, primary visual network



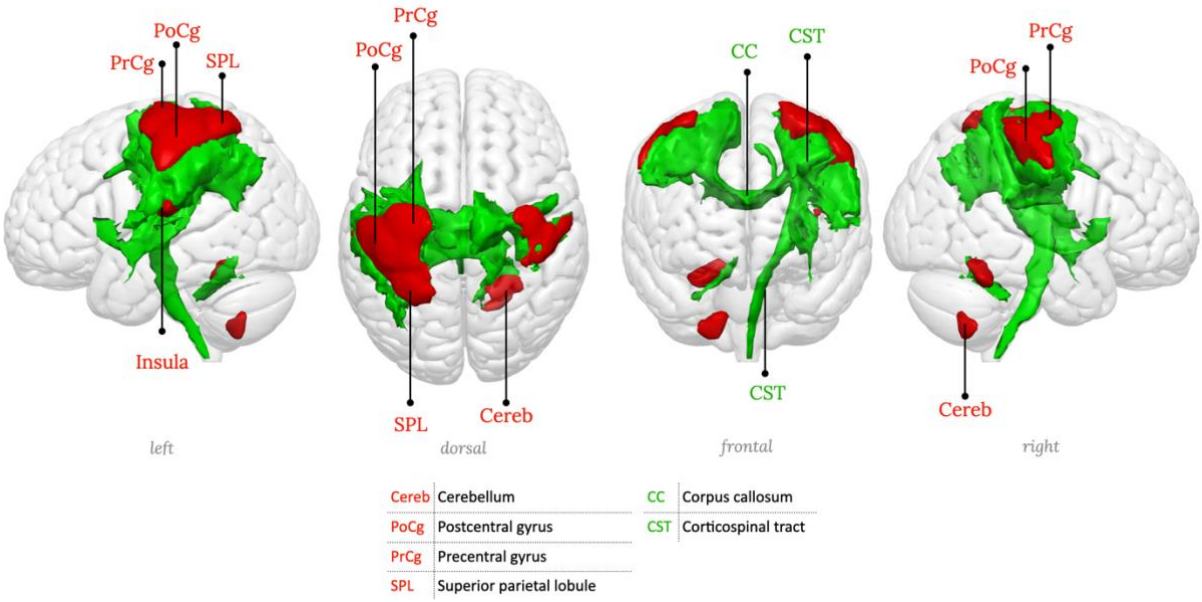
Supplementary figure 5: RSN05, Posterior occipital network.



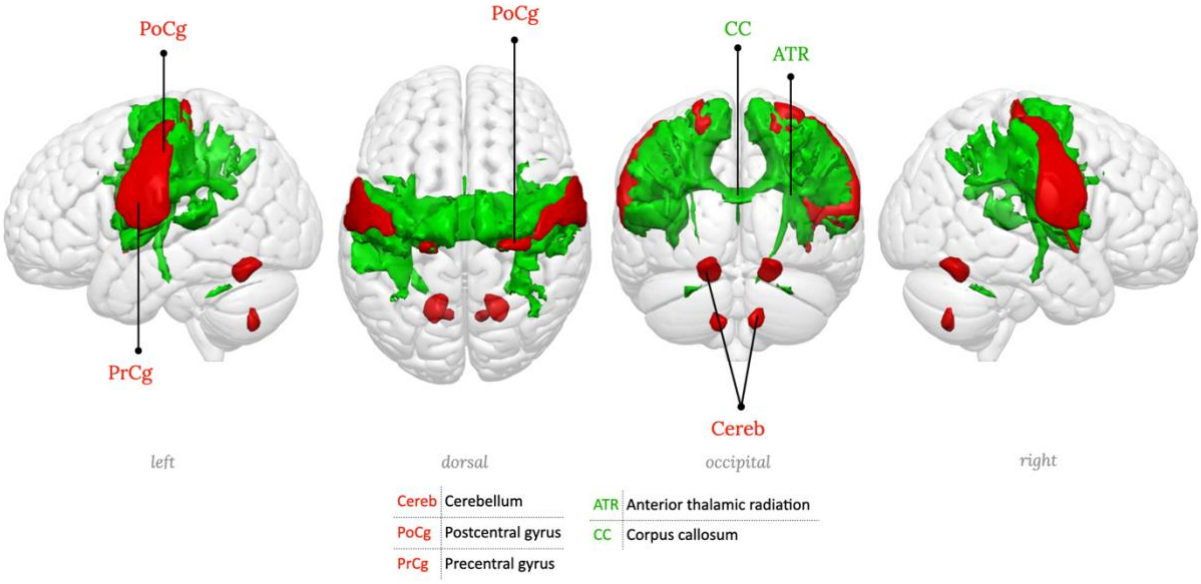
Supplementary figure 6: RSN06, Precentral network, Motor network.



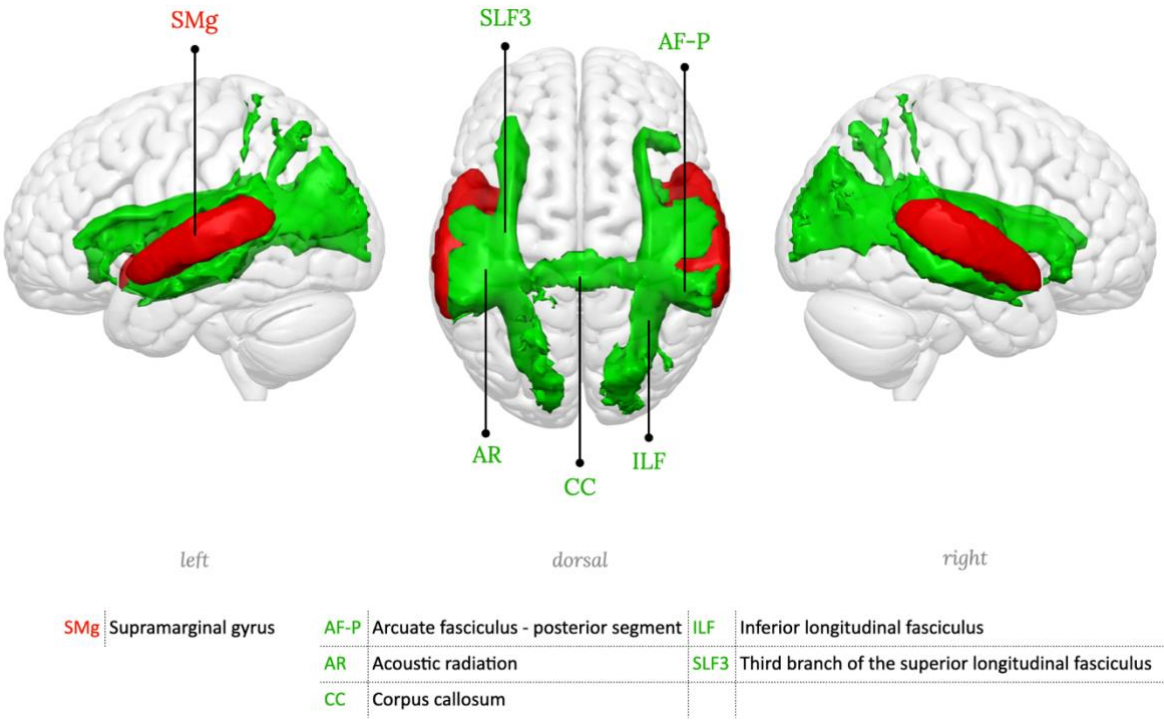
Supplementary figure 8: RSN08, Middle central network, left hemisphere component (somato-motor, right hand portion)



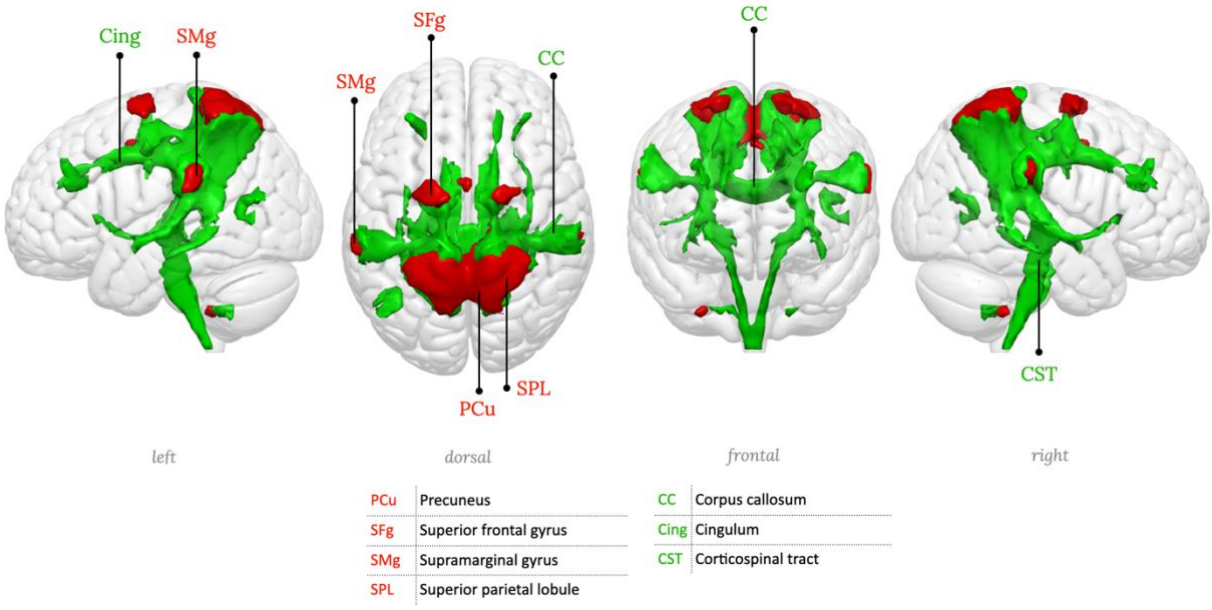
Supplementary figure 9: RSN09, Middle central network, right hemisphere component (somato-motor, left hand portion)



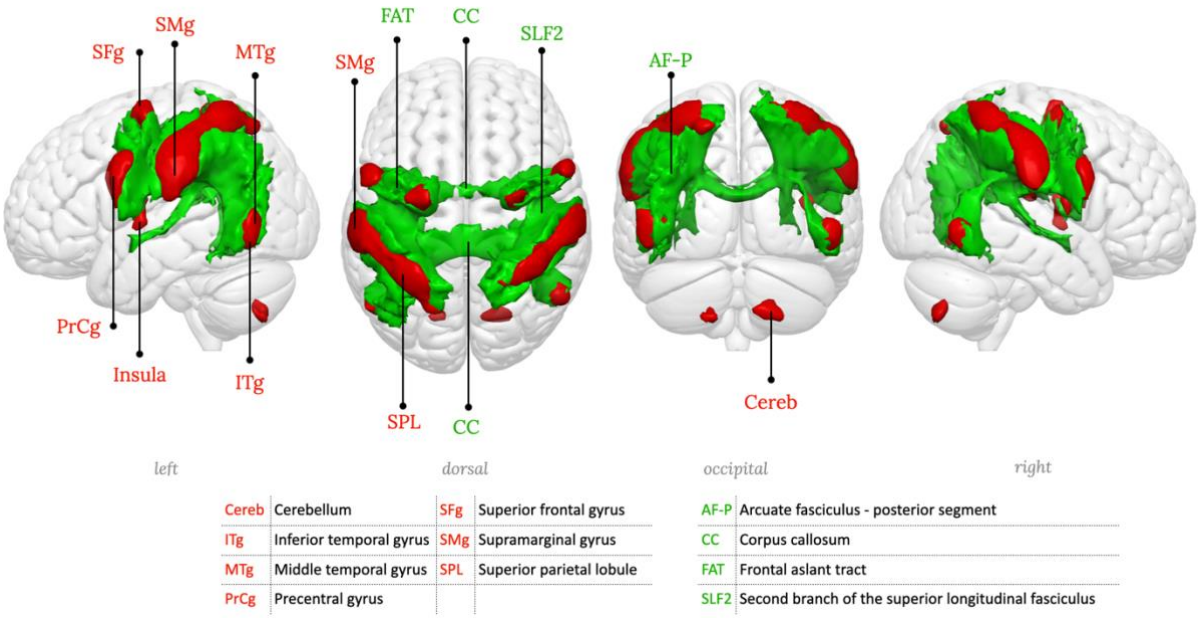
Supplementary figure 10: RSN10, Inferior central network (somato-motor, head portion)



Supplementary figure 11: RSN11, Superior temporal network, Primary auditory network.



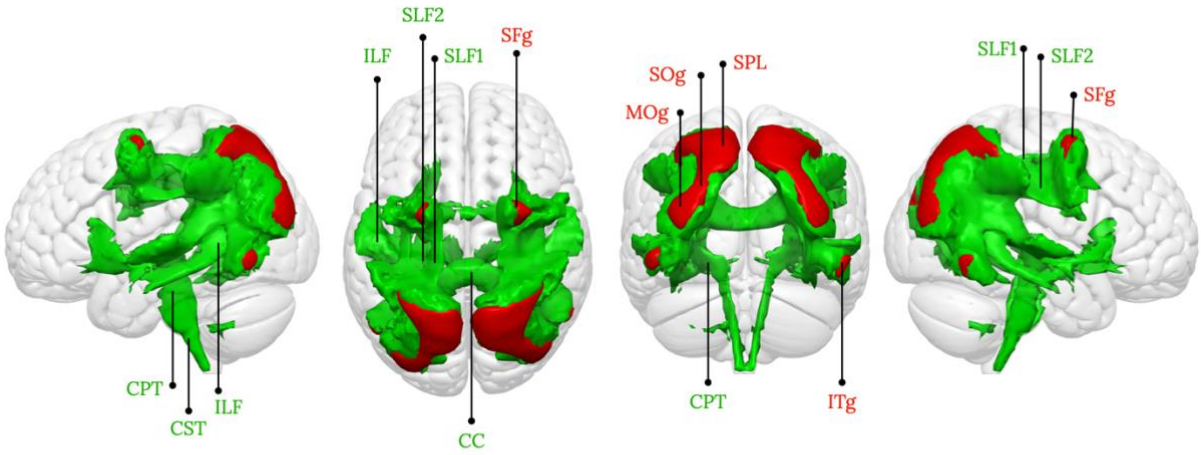
Supplementary figure 12: RSN12, Anterior superior parietal network



Cereb	Cerebellum	SFg	Superior frontal gyrus
ITg	Inferior temporal gyrus	SMg	Supramarginal gyrus
MTg	Middle temporal gyrus	SPL	Superior parietal lobule
PrCg	Precentral gyrus		

AF-P	Arcuate fasciculus - posterior segment
CC	Corpus callosum
FAT	Frontal aslant tract
SLF2	Second branch of the superior longitudinal fasciculus

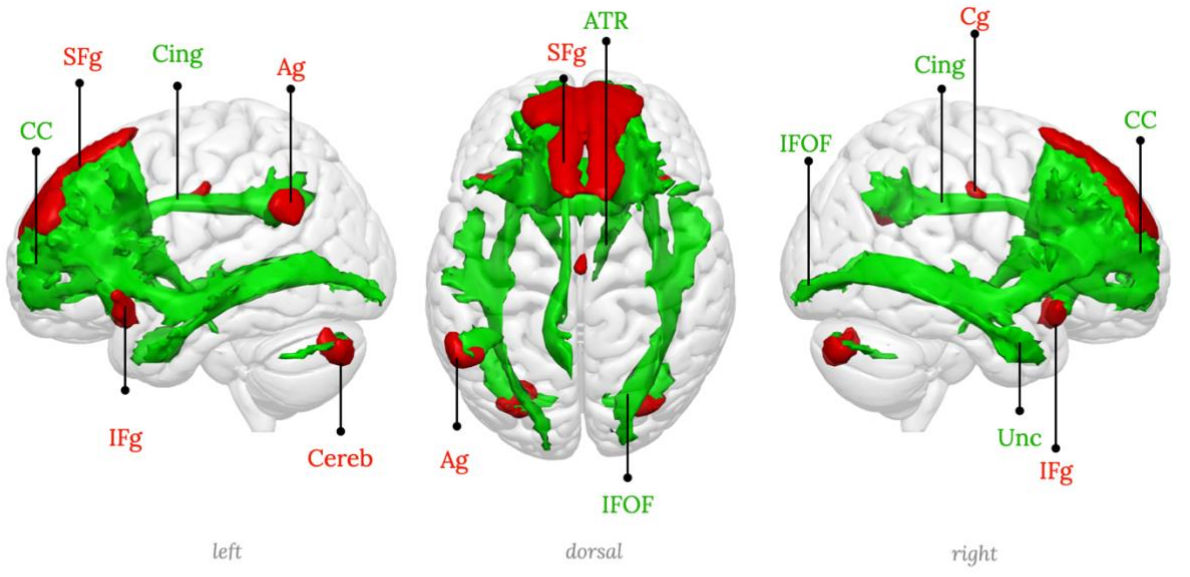
Supplementary figure 13: RSN13, Superior parietal network, Dorsal attention network



ITg	Inferior temporal gyrus	SOg	Superior occipital gyrus
MOg	Middle occipital gyrus	SPL	Superior parietal lobule
SFg	Superior frontal gyrus		

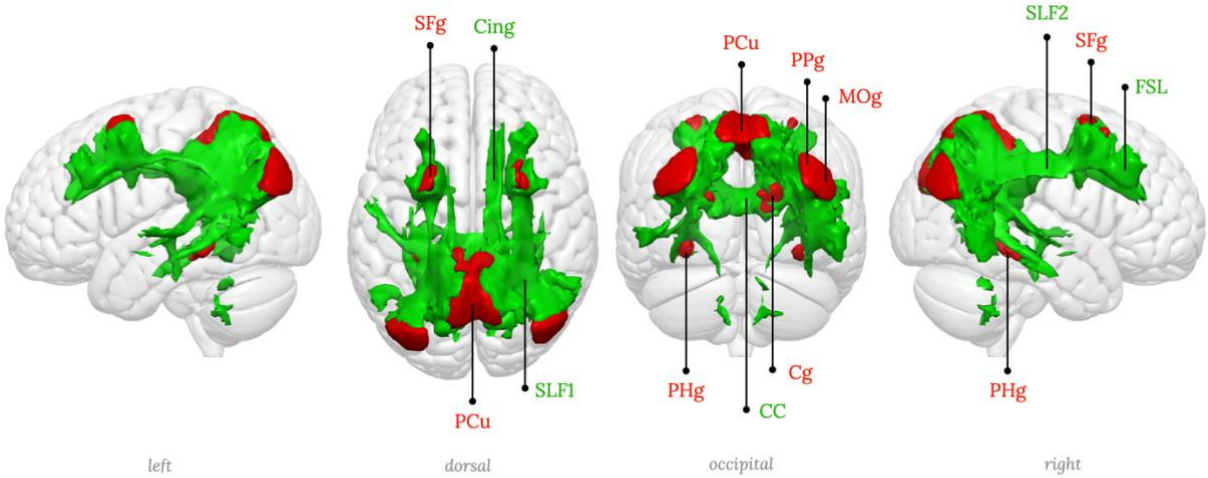
CC	Corpus callosum	ILF	Inferior longitudinal fasciculus
CPT	Corticpontine tract	SLF1	First branch of the superior longitudinal fasciculus
CST	Cortico Spinal tract	SLF2	Second branch of the superior longitudinal fasciculus

Supplementary figure 14: RSN14, Posterior superior parietal network



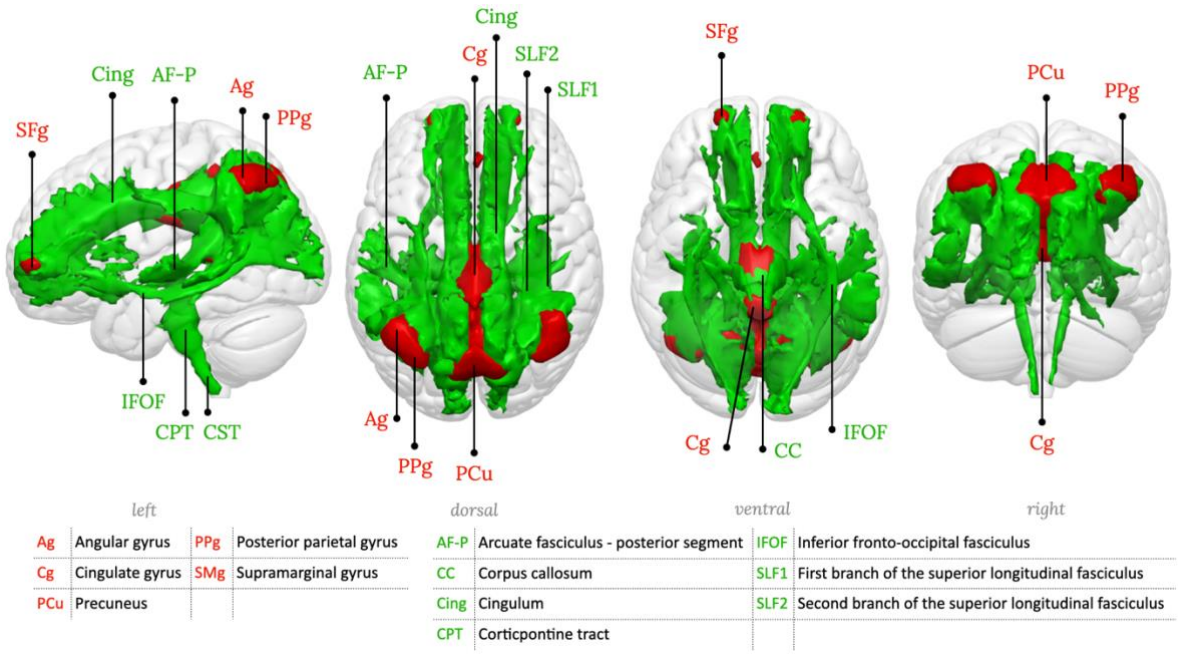
Ag	Angular gyrus	IFg	Inferior frontal gyrus	ATR	Anterior thalamic radiation	IFOF	Inferior fronto-occipital fasciculus
Cereb	Cerebellum	SFg	Superior frontal gyrus	CC	Corpus callosum	Unc	Uncinate fasciculus
Cg	Cingulate gyrus			Cing	Cingulum		

Supplementary figure 15: RSN15, Medial frontal network



Cg	Cingulate gyrus	PHg	Parahippocampal gyrus	CC	Corpus callosum
MOg	Middle occipital gyrus	PPg	Posterior parietal gyrus	Cing	Cingulum
PCu	Precuneus	SFg	Superior frontal gyrus	FSL	Frontal superior longitudinal tract
				SLF2	Second branch of the superior longitudinal fasciculus

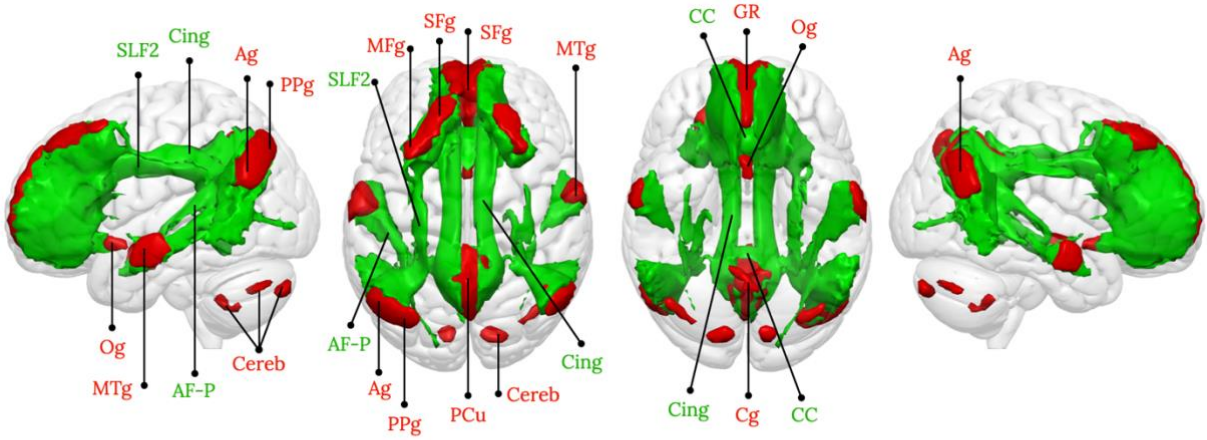
Supplementary figure 16: RSN16, Posterior parietal-precuneal network, Posterior default mode network



Ag	Angular gyrus	PPg	Posterior parietal gyrus
Cg	Cingulate gyrus	SMg	Supramarginal gyrus
PCu	Precuneus		

AF-P	Arcuate fasciculus - posterior segment	IFOF	Inferior fronto-occipital fasciculus
CC	Corpus callosum	SLF1	First branch of the superior longitudinal fasciculus
Cing	Cingulum	SLF2	Second branch of the superior longitudinal fasciculus
CPT	Corticpontine tract		

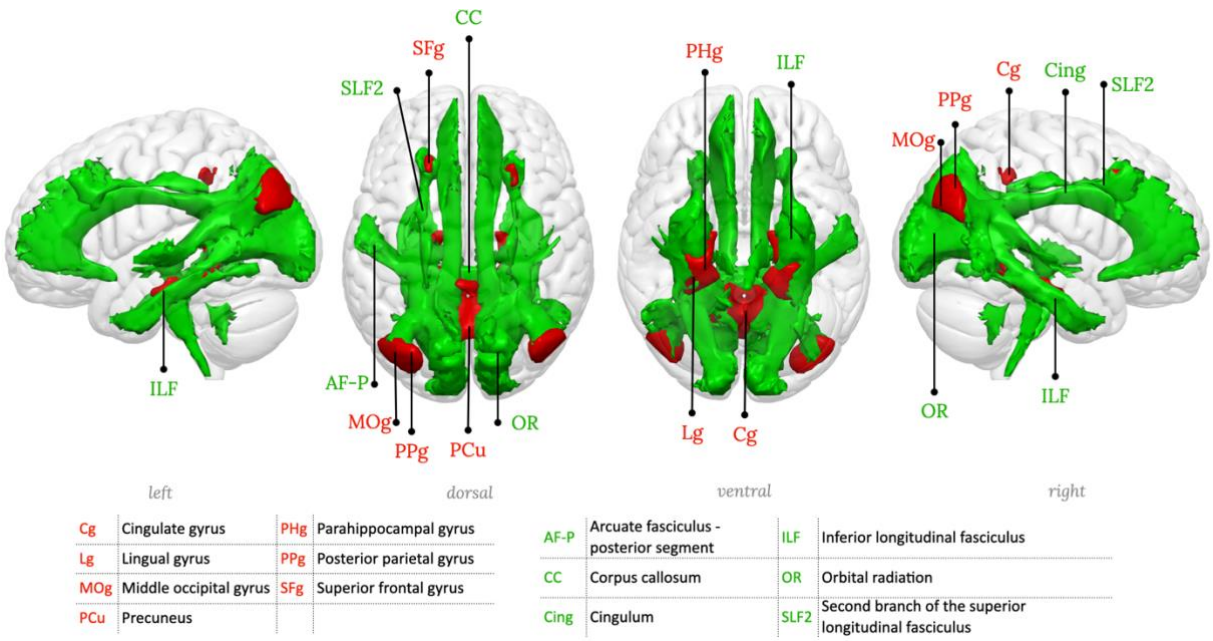
Supplementary figure 17: RSN17, Posterior cingulate-precuneal network, Dorsal default mode network



Ag	Angular gyrus	MFg	Middle frontal gyrus	PPg	Posterior parietal gyrus
Cereb	Cerebellum	MTg	Middle temporal gyrus	SFg	Superior frontal gyrus
Cg	Cingulate gyrus	Og	Olfactory gyrus		
GR	Gyrus rectus	PCu	Precuneus		

AF-P	Arcuate fasciculus - posterior segment
CC	Corpus callosum
Cing	Cingulum
SLF2	Second branch of the superior longitudinal fasciculus

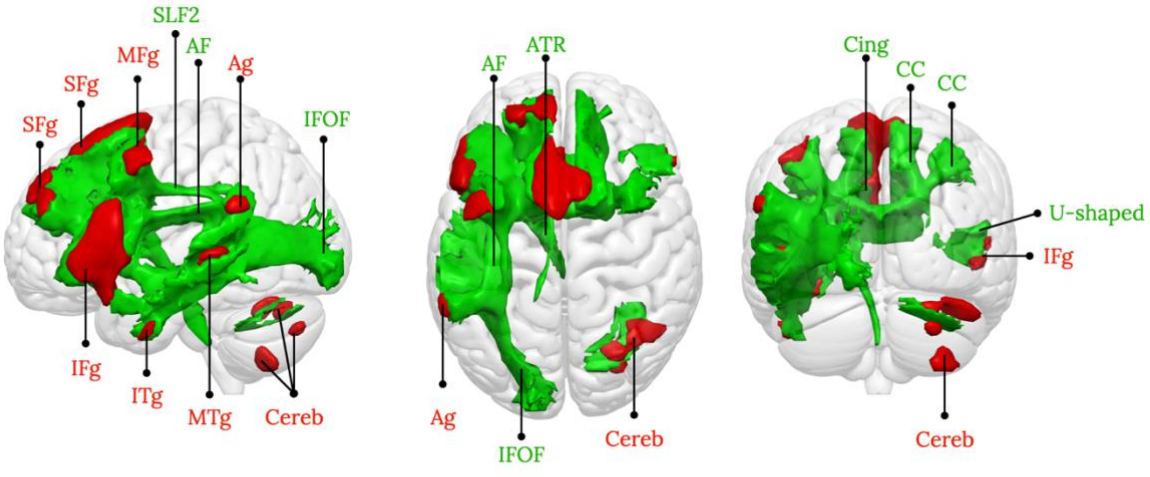
Supplementary figure 18: RSN18, Precuneus network, Default mode network proper



Cg	Cingulate gyrus	PHg	Parahippocampal gyrus
Lg	Lingual gyrus	PPg	Posterior parietal gyrus
MOg	Middle occipital gyrus	SFg	Superior frontal gyrus
PCu	Precuneus		

AF-P	Arcuate fasciculus - posterior segment	ILF	Inferior longitudinal fasciculus
CC	Corpus callosum	OR	Orbital radiation
Cing	Cingulum	SLF2	Second branch of the superior longitudinal fasciculus

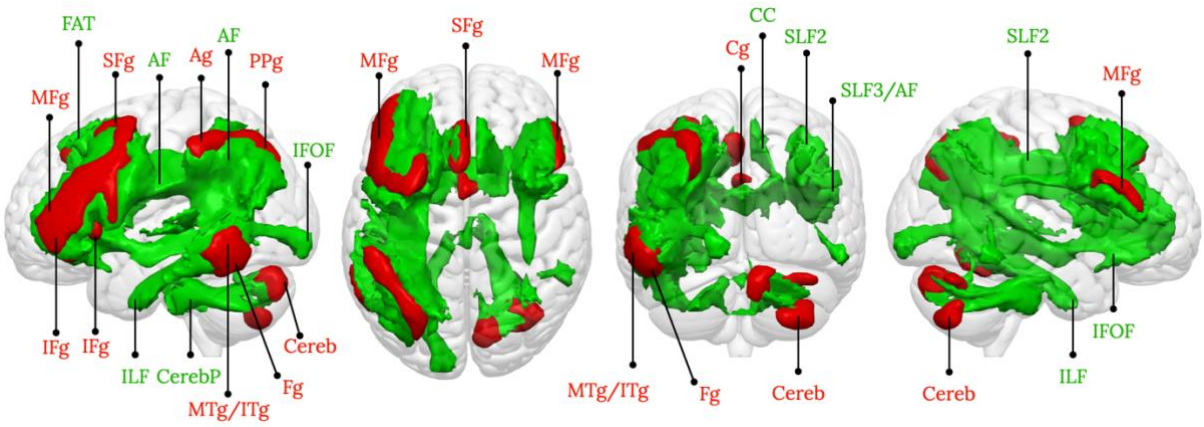
Supplementary figure 19: RSN19, Parahippocampal-precuneal network, Parahippocampal default mode network



Ag	Angular gyrus	MFg	Middle frontal gyrus
Cereb	Cerebellum	MTg	Middle temporal gyrus
IFg	Inferior frontal gyrus	SFg	Superior frontal gyrus
ITg	Inferior temporal gyrus		

AF	Arcuate fasciculus	Cing	Cingulum
ATR	Anterior thalamic radiation	IFOF	Inferior fronto-occipital fasciculus
CC	Corpus callosum	SLF2	Second branch of the superior longitudinal fasciculus

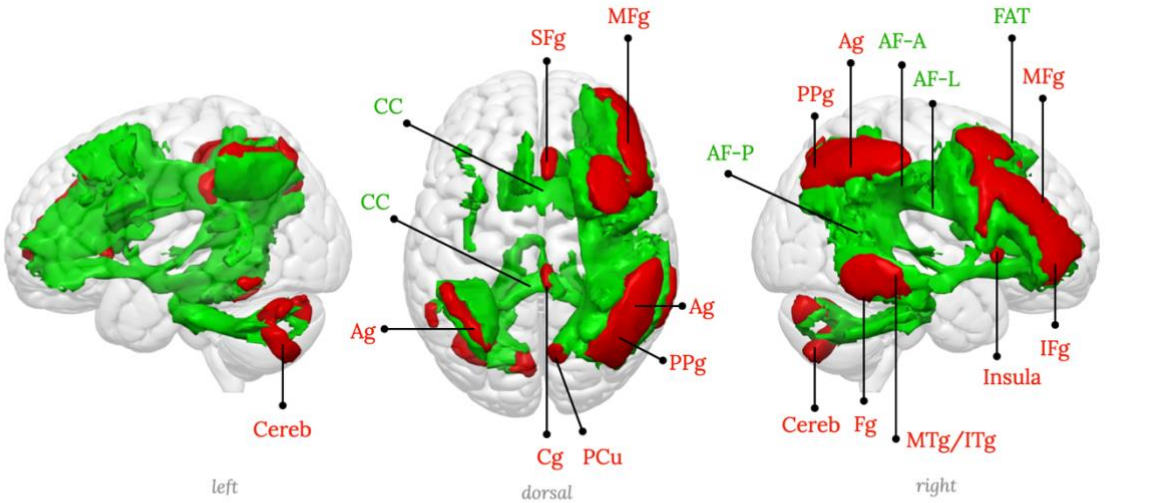
Supplementary figure 20: RSN20, Left inferior frontal network, Language production network



Ag	Angular gyrus	IFg	Inferior frontal gyrus	PPg	Posterior parietal gyrus
Cereb	Cerebellum	ITg	Inferior temporal gyrus	SMg	Supramarginal gyrus
Cg	Cingulate gyrus	MFg	Middle frontal gyrus		
Fg	Fusiform gyrus	MTg	Middle temporal gyrus		

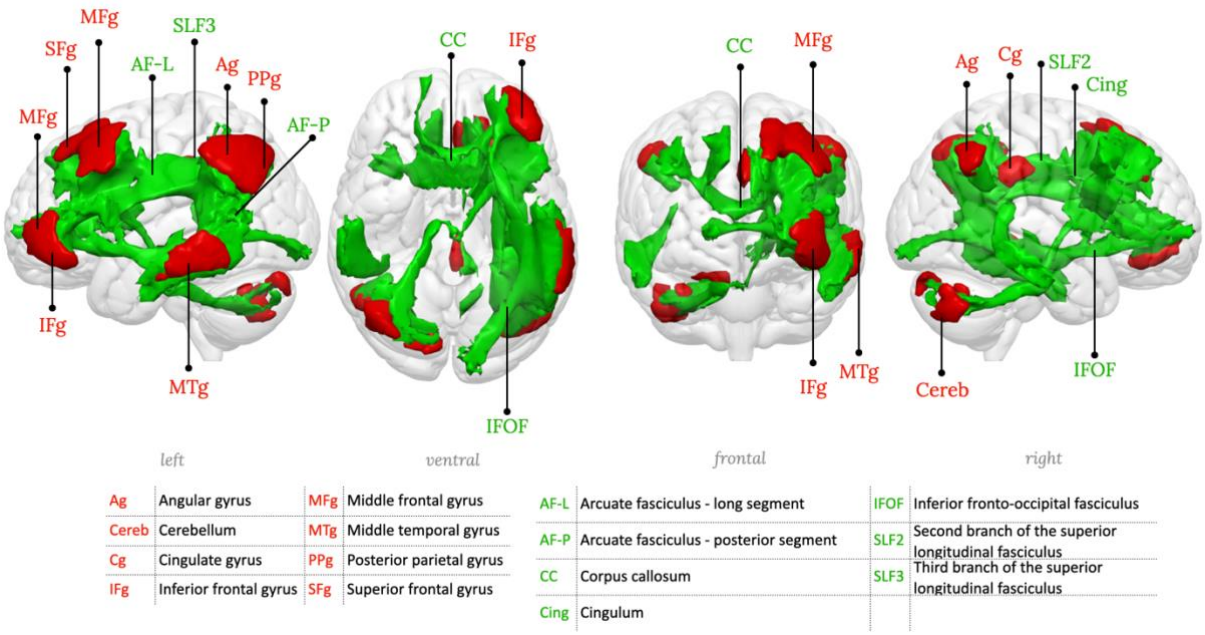
AF	Arcuate fasciculus	FAT	Frontal aslant tract
CC	Corpus callosum	ILF	Inferior longitudinal fasciculus
CerebP	Pontocerebellar tract	SLF2	Second branch of the superior longitudinal fasciculus
		SLF3	Third branch of the superior longitudinal fasciculus

Supplementary figure 21: RSN21, Fronto-parieto-temporal network 1, left hemisphere component



Ag	Angular gyrus	IFg	Inferior frontal gyrus	PCu	Precuneus	AF-A	Arcuate fasciculus - anterior segment	CC	Corpus callosum
Cereb	Cerebellum	ITg	Inferior temporal gyrus	PPg	Posterior parietal gyrus	AF-L	Arcuate fasciculus - long segment	FAT	Frontal aslant tract
Cg	Cingulate gyrus	MFg	Middle frontal gyrus	SMg	Supramarginal gyrus	AF-P	Arcuate fasciculus - posterior segment		
Fg	Fusiform gyrus	MTg	Middle temporal gyrus						

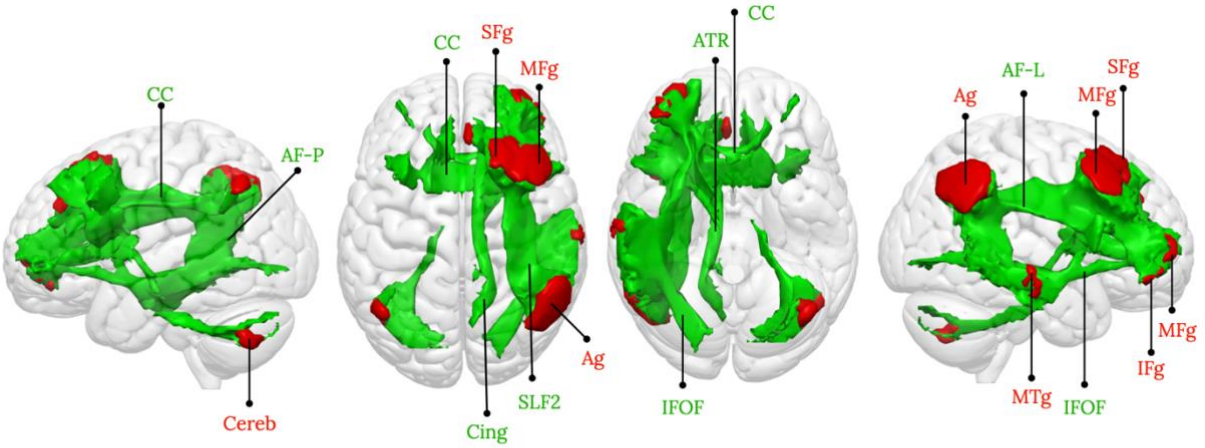
Supplementary figure 22: RSN22, Fronto-parieto-temporal network 1, right hemisphere component



Ag	Angular gyrus	MFg	Middle frontal gyrus
Cereb	Cerebellum	MTg	Middle temporal gyrus
Cg	Cingulate gyrus	PPg	Posterior parietal gyrus
IFg	Inferior frontal gyrus	SFg	Superior frontal gyrus

AF-L	Arcuate fasciculus - long segment	IFOF	Inferior fronto-occipital fasciculus
AF-P	Arcuate fasciculus - posterior segment	SLF2	Second branch of the superior longitudinal fasciculus
CC	Corpus callosum	SLF3	Third branch of the superior longitudinal fasciculus
Cing	Cingulum		

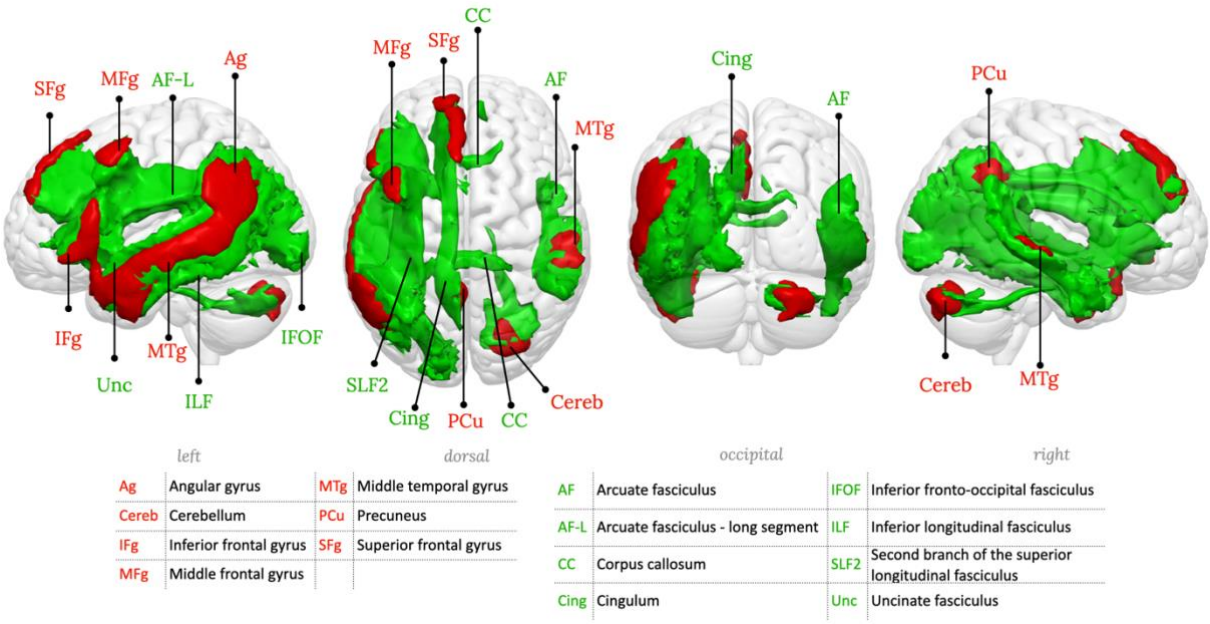
Supplementary figure 23: RSN23, Fronto-parieto-temporal network 2, left hemisphere component



Ag	Angular gyrus	MFg	Middle frontal gyrus
Cereb	Cerebellum	MTg	Middle temporal gyrus
IFg	Inferior frontal gyrus	SFg	Superior frontal gyrus

AF-L	Arcuate fasciculus - long segment	Cing	Cingulum
AF-P	Arcuate fasciculus - posterior segment	IFOF	Inferior fronto-occipital fasciculus
ATR	Anterior thalamic radiation	SLF2	Second branch of the superior longitudinal fasciculus
CC	Corpus callosum		

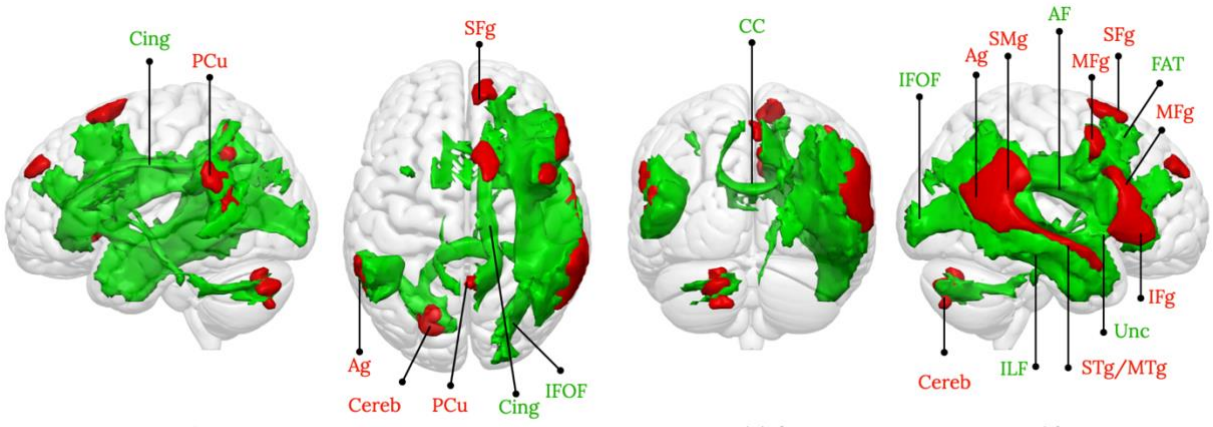
Supplementary figure 24: RSN24, Fronto-parieto-temporal network 2, right hemisphere component



Ag	Angular gyrus	MTg	Middle temporal gyrus
Cereb	Cerebellum	PCu	Precuneus
IFg	Inferior frontal gyrus	SFg	Superior frontal gyrus
MFg	Middle frontal gyrus		

AF	Arcuate fasciculus	IFOF	Inferior fronto-occipital fasciculus
AF-L	Arcuate fasciculus - long segment	ILF	Inferior longitudinal fasciculus
CC	Corpus callosum	SLF2	Second branch of the superior longitudinal fasciculus
Cing	Cingulum	Unc	Uncinate fasciculus

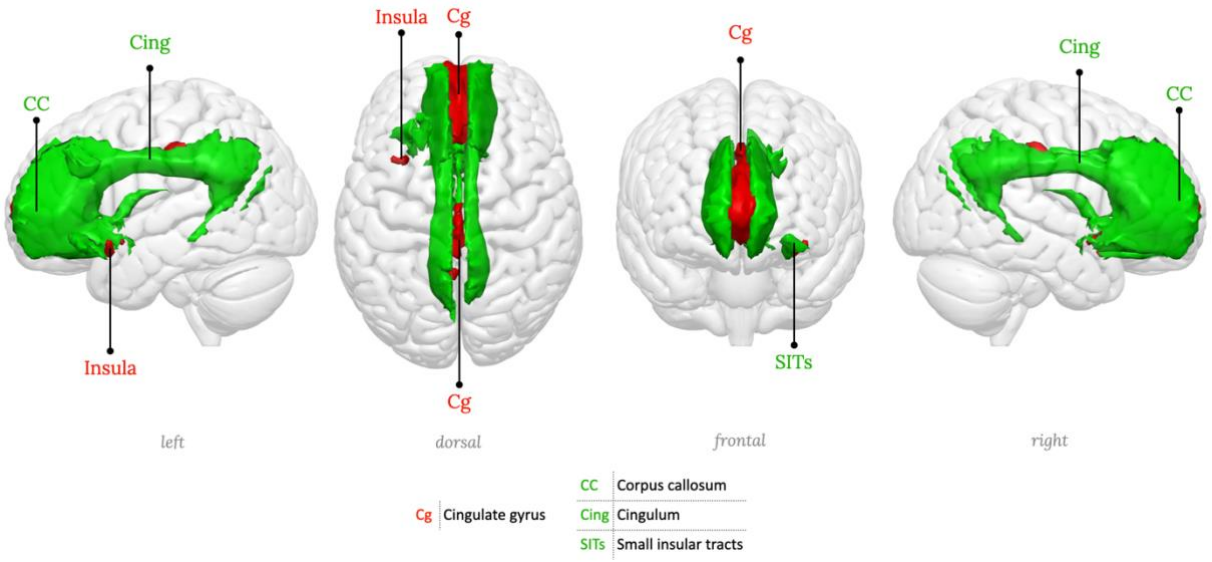
Supplementary figure 25: RSN25, Fronto-parieto-temporal network 3, left hemisphere component



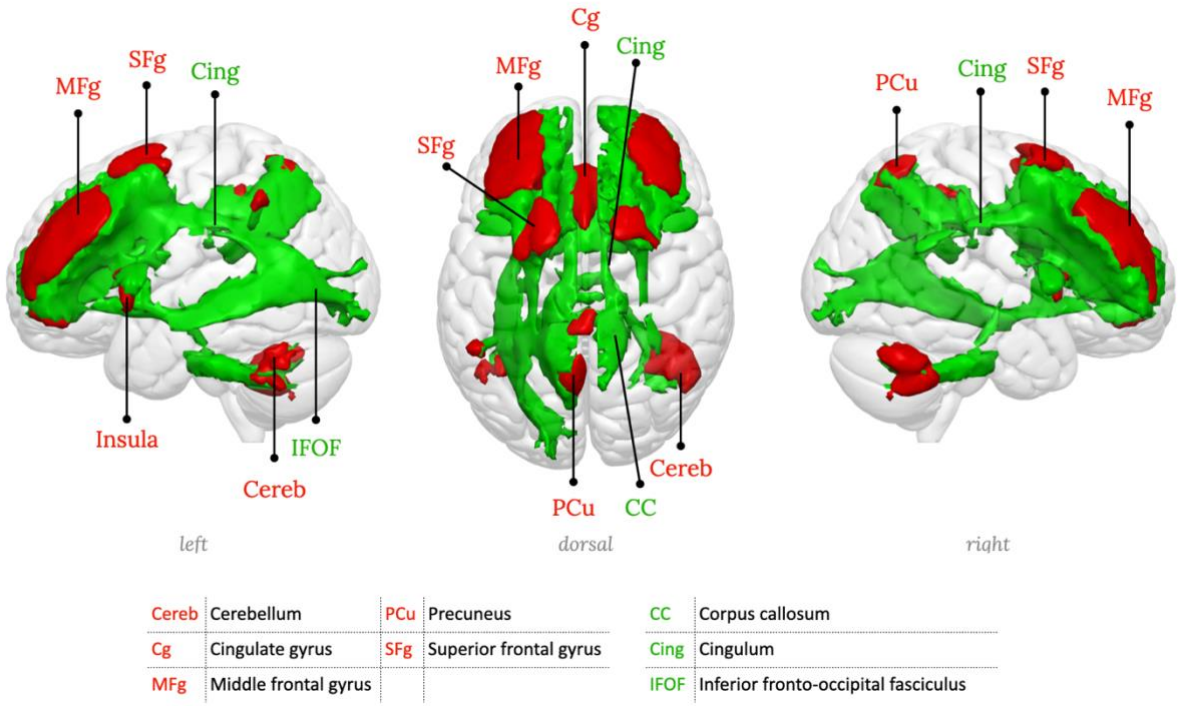
Ag	Angular gyrus	MFg	Middle frontal gyrus	SFg	Superior frontal gyrus
Cereb	Cerebellum	MTg	Middle temporal gyrus	SMg	Supramarginal gyrus
IFg	Inferior frontal gyrus	PCu	Precuneus	STg	Superior temporal gyrus

AF	Arcuate fasciculus	IFOF	Inferior fronto-occipital fasciculus
CC	Corpus callosum	ILF	Inferior longitudinal fasciculus
Cing	Cingulum	Unc	Uncinate fasciculus
FAT	Frontal aslant tract		

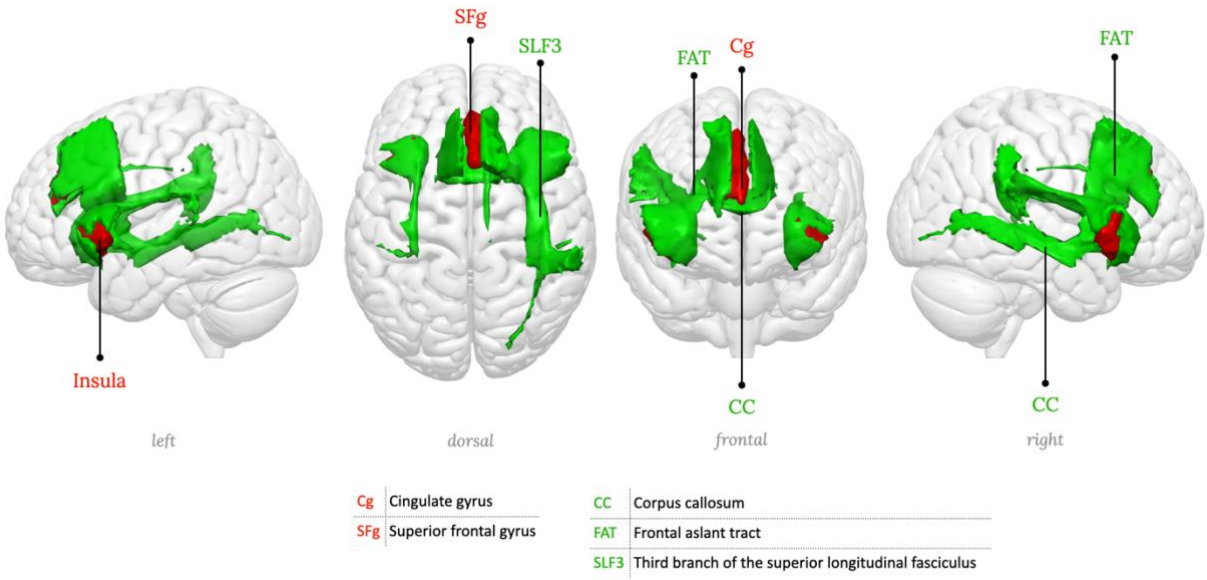
Supplementary figure 26: RSN26, Fronto-parieto-temporal network 3, right hemisphere component



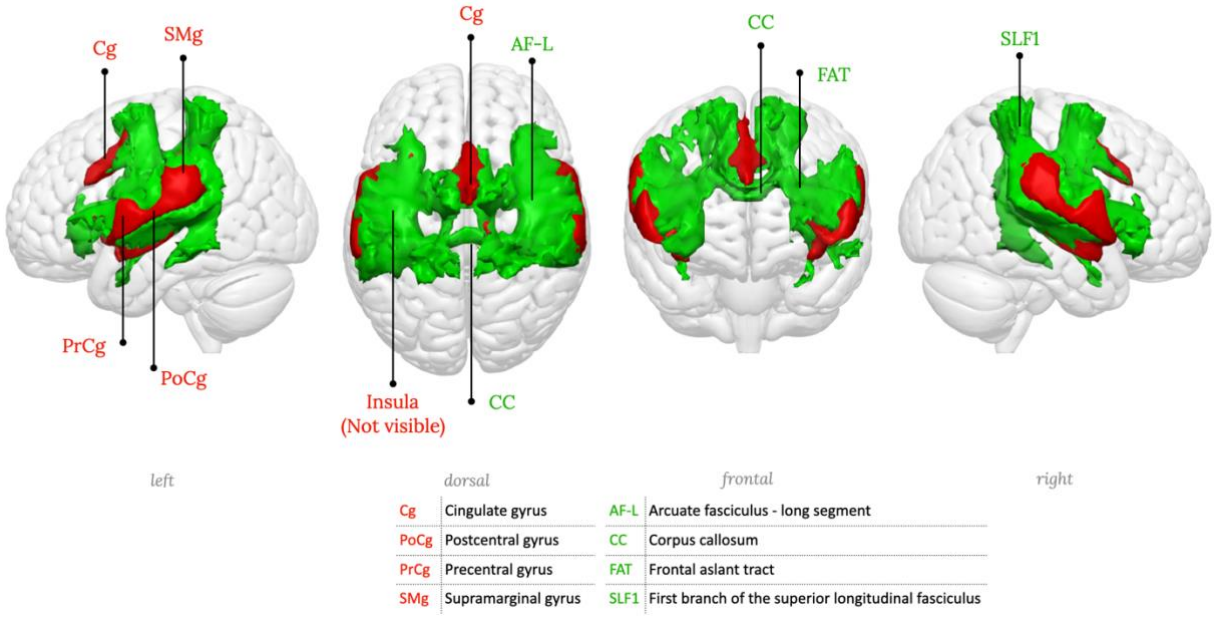
Supplementary figure 27: RSN27, Anterior cingulate network



Supplementary figure 28: RSN28, Dorso-lateral prefrontal cortex network



Supplementary figure 29: RSN29, Insula network, Salience network



Supplementary figure 30: RSN30, Cingulo-opercular network

WhiteRest module output table of the CSO lesion analysis

In the main text, we give an example of analysis from the WhiteRest module (Figure 6), using a synthetic lesion in the left centrum semiovale (CSO). In addition to the pie chart displaying the main results, the complete output from the program also comprises a table with various measures for all involved RSNs:

Supplementary Table 1: WhiteRest raw output for the CSO ROI
Presence (%) and Presence (raw): see the Methods. Presence/RSN (%): Presence (raw) from the ROI divided by the brain-wide Presence of the RSN. It reflects how much of the RSN is in the ROI. Coverage (%): Percentage of voxels of the ROI that belong to the RSN. It reflects how much of the ROI intersects with the RSN.

RSN number	RSN name	Presence (%)	Presence (raw)	Presence/RSN (%)	Coverage (%)
RSN11	Precentral / Motor	15,27	8406,48	3,32	92,24
RSN05	FPT 1 (L)	12,95	7128,12	2,88	68,31
RSN13	Mid. Central (L) / SM hand (L)	9,05	4984,57	2,34	60,80
RSN17	Dorsal attention	8,81	4849,31	2,37	69,60
RSN16	Inf. Central / SM head	8,63	4748,65	2,14	46,96
RSN22	Post. Sup. Par.	6,68	3676,58	1,29	51,88
RSN09	FPT 2 (L)	6,28	3459,62	1,77	46,44
RSN03	dlPFC	5,86	3226,15	1,97	42,04
RSN12	Sup. Central / SM body	5,45	3001,98	1,29	33,64
RSN07	FPT 3 (L)	4,16	2289,36	0,94	30,14
RSN14	Mid. Central (R) / SM hand (R)	3,33	1834,59	1,03	27,04
RSN21	PP-Precuneal / Posterior DMN	3,32	1826,17	0,82	26,26
RSN27	Lat. Post. Occ.	2,89	1589,86	0,62	21,86
RSN04	Left frontal	2,70	1487,91	0,94	21,22
RSN23	PC-Precuneal / Dorsal DMN	1,13	620,64	0,24	9,18
RSN24	DMN proper	0,93	512,65	0,27	8,28
RSN25	PH-Precuneal / Parahippocampal DMN	0,93	511,60	0,19	8,41
RSN19	Cingulo-opercular	0,80	439,96	0,18	6,21
RSN26	Lat. Occ.	0,64	352,73	0,15	5,95
RSN06	FPT 1 (R)	0,09	51,40	0,02	0,91
RSN15	Ant. Sup. Par.	0,08	43,50	0,03	0,78
RSN28	Med. Occ.	0,01	7,35	0,00	0,13