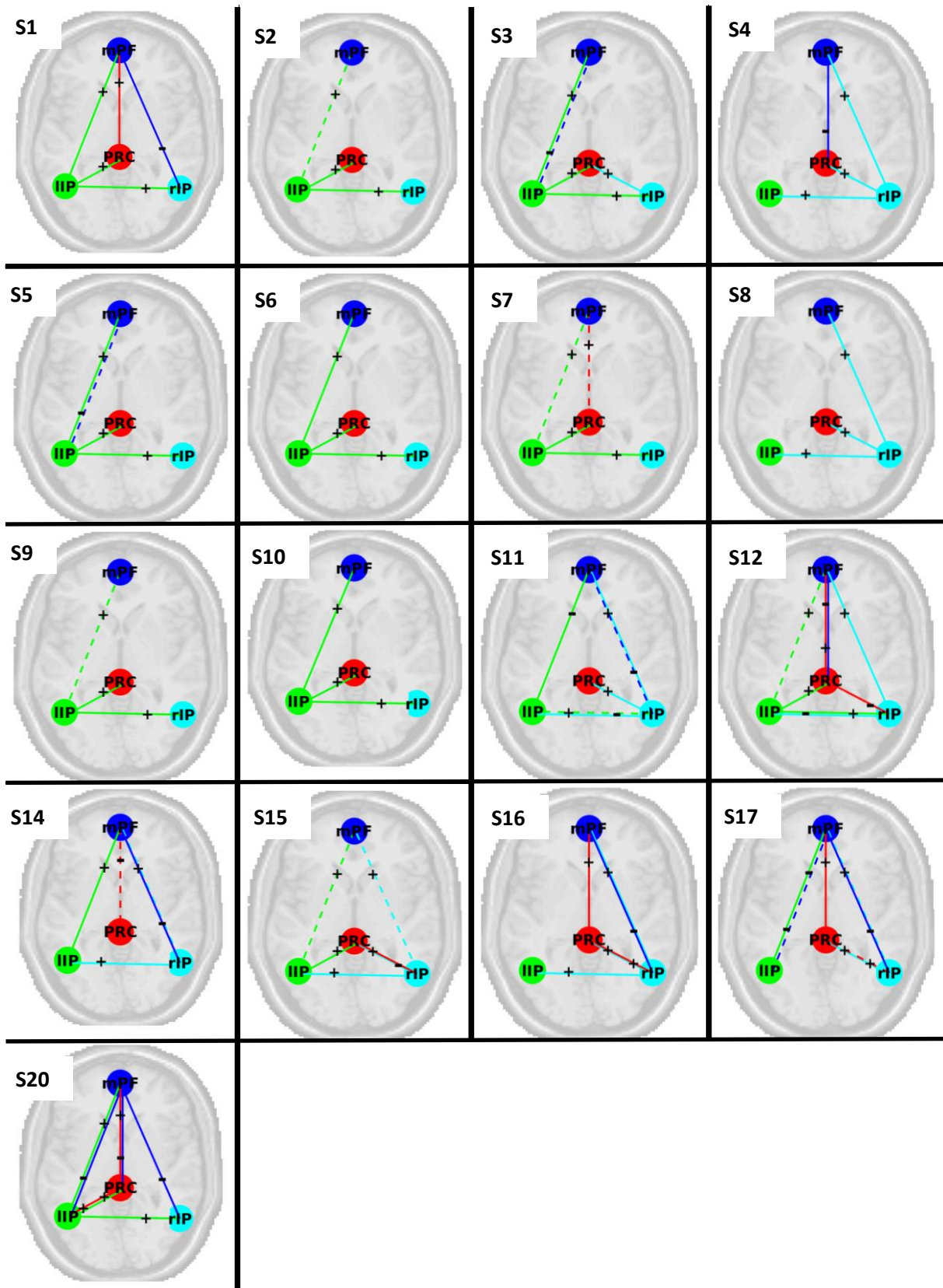


Supplementary Figure 1. Connectivity matrices for all subjects. Connections that did not reach the predefined posterior probability criterion of 90% were considered as non-significant (ns). All subjects, except subject 14, showed significant hemispheric asymmetry.



Supplementary Figure 2. Subject-specific sign stability. Connections that had the same time for 75% of sessions for the respective subject are shown using solid lines, connections that showed the same sign 70% of sessions are shown depicted with dashed lines. The line colours depict the source of a connection (e.g., green lines depict connections from the IIPC to other regions). Stable connections arise from left or right IPC for the majority of subjects, which coincides with the subject-specific asymmetry. For visualization purposes the precuneus is shown more anteriorly than in reality.

Sub	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S14	S15	S16	S17	S20
Con																	
p -> p	-0.13	-0.31	0.33	0.11	-0.12	-0.12	0.27	-0.06	-0.31	0.27	0.07	0.46	0.21	0.22	0.01	0.51	0.21
p -> l	-0.01	0.35	-0.28	0.08	0.16	-0.14	-0.13	0.13	0.20	-0.02	-0.01	-0.40	-0.17	-0.01	0.04	-0.42	-0.08
p -> m	0.07	0.30	-0.17	-0.18	0.12	0.01	-0.00	0.13	0.11	0.06	-0.01	-0.08	-0.02	-0.01	0.01	-0.25	0.04
p -> r	0.08	0.42	-0.51	-0.37	0.18	0.10	-0.04	-0.08	0.06	-0.15	-0.07	-0.07	-0.39	-0.03	0.02	-0.18	-0.27
l -> p	0.42	-0.09	0.06	0.12	0.33	0.01	0.46	0.29	0.55	-0.22	0.27	-0.13	0.47	0.37	-0.30	0.13	-0.37
l -> l	-0.29	0.28	-0.21	-0.04	-0.08	-0.09	-0.27	-0.24	-0.17	0.03	-0.46	0.09	-0.32	-0.09	0.60	-0.07	0.24
l -> m	0.21	-0.09	0.04	0.40	0.10	-0.34	0.46	0.18	0.36	-0.16	0.10	0.02	0.13	0.22	-0.26	0.03	-0.07
l -> r	0.28	-0.21	0.51	0.35	0.31	-0.26	0.21	0.51	0.20	0.40	0.40	-0.02	0.60	0.38	-0.25	-0.06	0.30
m -> p	-0.05	-0.10	0.07	-0.27	-0.02	0.51	0.08	-0.13	-0.20	-0.22	0.09	-0.02	-0.03	0.07	-0.01	0.07	-0.15
m -> l	-0.04	-0.10	0.09	-0.26	0.01	0.34	-0.00	-0.08	-0.22	-0.17	-0.02	-0.06	-0.00	0.02	0.02	0.09	-0.09
m -> m	0.10	0.35	-0.21	0.17	0.18	-0.39	0.12	0.09	0.03	0.48	-0.15	0.14	0.05	0.04	0.08	-0.05	0.29
m -> r	0.02	-0.17	0.11	0.12	-0.06	0.19	0.09	-0.08	0.02	-0.26	0.05	-0.11	-0.03	0.08	-0.01	-0.00	-0.11
r -> p	-0.40	-0.21	0.23	0.54	-0.44	-0.39	-0.36	-0.23	-0.31	0.40	-0.24	0.44	-0.21	-0.19	0.38	0.15	0.58
r -> l	-0.26	-0.24	0.12	0.18	-0.37	-0.20	-0.1	-0.39	-0.22	0.10	-0.39	0.55	-0.15	-0.4	0.40	0.45	0.30
r -> m	-0.27	-0.15	0.04	0.08	-0.22	-0.10	-0.37	-0.23	-0.23	0.33	-0.15	0.19	-0.06	-0.22	0.24	0.25	0.13
r -> r	0.52	0.29	-0.28	0.02	0.52	-0.03	0.25	0.47	0.24	-0.02	0.52	-0.14	0.01	0.60	-0.22	-0.38	-0.05
Expl. Var.	36.7%	26.3%	34.3%	35.7%	24.5%	41.8%	34.0%	24.0%	25.5%	26.2%	59.1%	49.6%	53.7%	41.4%	72.8%	45.3%	58.6%

Supplementary Table 1. Loadings on first principal component and respective proportion explained variance shown for all subjects. Loadings shown in bold have opposite signs for left and right inferior parietal cortex. Abbreviations: Sub/S = subject, Con = connection, Expl. Var = proportion explained variance. Anatomical labels: p = precuneus, l/r = left/right inferior parietal cortex, m = medial prefrontal cortex.