

Table S3 Mann–Whitney U statistics comparing linear prefrontal connectivity at low-beta frequencies (12 Hz – 15 Hz) between healthy controls and alcohol-addicted rats. A) Significant p -values given in bold, italic. B) Effect size (rank-biserial correlation) with $|r| \geq 0.1$ = small, $|r| \geq 0.3$ = medium and $|r| \geq 0.5$ = large effects (given in bold, italic).

A	From									
		PR	MR	FR	FC	PC	MC	FL	ML	PL
To	PR		0.229	0.400	0.533	0.413	0.071	1.000	0.100	0.533
	MR	0.400		0.400	0.133	0.571	0.057	0.095	0.143	1.000
	FR	0.533	0.343		0.629	1.000	0.114	0.114	0.393	0.333
	FC	0.800	0.857	0.571		0.857	0.250	0.857	0.381	0.267
	PC	0.400	0.800	0.800	0.800		0.533	0.400	0.190	0.533
	MC	0.071	0.533	0.250	0.381	0.800		0.381	1.000	0.400
	FL	0.533	0.036	0.250	0.533	0.800	0.343		0.413	1.000
	ML	0.400	0.133	0.400	1.000	0.250	0.629	0.250		0.400
	PR	0.700	0.667	1.000	1.000	0.400	0.500	1.000	0.143	
B	From									
		PR	MR	FR	FC	PC	MC	FL	ML	PL
To	PR		0.535	0.401	0.378	0.327	0.685	0.000	0.802	0.378
	MR	0.401		0.401	0.756	0.293	0.802	0.732	0.580	0.224
	FR	0.378	0.408		0.267	0.000	0.612	0.668	0.369	0.598
	FC	0.189	0.146	0.264		0.146	0.474	0.146	0.439	0.567
	PC	0.401	0.258	0.258	0.189		0.378	0.632	0.586	0.378
	MC	0.685	0.378	0.474	0.439	0.189		0.439	0.000	0.632
	FL	0.378	0.791	0.474	0.378	0.189	0.408		0.327	0.000
	ML	0.401	0.756	0.516	0.000	0.474	0.267	0.474		0.632
	PR	0.267	0.359	0.224	0.120	0.632	0.671	0.120	0.580	

Electrode sites are labelled according to their position above the medial PFC as frontocentral (FC), frontal left (FL), frontal right (FR), medial central (MC), medial left (ML), medial right (MR), posterior central (PC), posterior left (PL) and posterior right (PR).

Table S4 Mann–Whitney U statistics comparing non-linear prefrontal connectivity at low-beta frequencies (12 Hz – 15 Hz) between healthy controls and alcohol-addicted rats. A) Significant p -values given in bold, italic. B) Effect size (rank-biserial correlation) with $|r| \geq 0.1$ = small, $|r| \geq 0.3$ = medium and $|r| \geq 0.5$ = large effects (given in bold, italic).

A		From								
To		PR	MR	FR	FC	PC	MC	FL	ML	PL
	PR		0.393	1.000	0.393	1.000	0.393	0.486	0.786	0.393
	MR	0.571		1.000	0.393	0.571	0.730	0.800	0.786	0.700
	FR	0.905	0.857		0.571	0.629	0.905	0.886	1.000	1.000
	FC	0.250	0.786	1.000		0.786	1.000	0.571	0.786	0.857
	PC	0.393	0.786	0.786	0.393		0.400	0.571	0.786	0.400
	MC	0.905	1.000	0.629	0.905	0.629		0.486	0.486	0.533
	FL	0.393	0.400	1.000	0.905	0.786	0.730		0.114	0.730
	ML	0.857	1.000	1.000	0.393	1.000	0.730	0.905		0.786
	PR	1.000	0.100	0.400	0.400	0.857	0.857	0.629	0.686	
B		From								
To		PR	MR	FR	FC	PC	MC	FL	ML	PL
	PR		0.369	0.000	0.369	0.000	0.369	0.306	0.158	0.369
	MR	0.264		0.053	0.369	0.264	0.163	0.189	0.158	0.267
	FR	0.082	0.146		0.264	0.267	0.082	0.102	0.053	0.000
	FC	0.474	0.158	0.000		0.158	0.000	0.264	0.158	0.146
	PC	0.369	0.158	0.158	0.369		0.401	0.264	0.158	0.401
	MC	0.082	0.053	0.267	0.082	0.267		0.306	0.306	0.378
	FL	0.369	0.401	0.053	0.082	0.158	0.163		0.668	0.163
	ML	0.146	0.053	0.053	0.369	0.053	0.163	0.082		0.158
	PR	0.000	0.802	0.445	0.401	0.134	0.134	0.267	0.204	

Table S5 Mann–Whitney U statistics comparing linear prefrontal connectivity at mid-beta frequencies (15 Hz – 18 Hz) between healthy controls and alcohol-addicted rats. A) Significant p -values given in bold, italic. B) Effect size (rank-biserial correlation) with $|r| \geq 0.1$ = small, $|r| \geq 0.3$ = medium and $|r| \geq 0.5$ = large effects (given in bold, italic).

A		From								
		PR	MR	FR	FC	PC	MC	FL	ML	PL
To	PR		0.056	0.730	0.905	0.485	0.931	0.310	0.931	0.690
	MR	0.082		0.421	0.886	0.485	0.548	0.143	0.421	0.699
	FR	0.063	1.000		0.931	0.548	0.548	0.690	1.000	0.177
	FC	0.413	0.730	0.690		1.000	0.286	1.000	0.167	0.067
	PC	0.792	0.730	0.190	0.730		0.052	0.792	0.931	0.662
	MC	0.257	0.222	1.000	0.905	0.931		0.931	1.000	0.537
	FL	0.714	0.111	0.429	0.556	0.610	0.222		0.222	0.792
	ML	0.690	0.222	0.841	0.556	0.556	0.421	0.690		0.818
	PL	0.190	1.000	0.556	0.413	0.857	0.250	0.190	0.286	
B		From								
		PR	MR	FR	FC	PC	MC	FL	ML	PL
To			0.628	0.163	0.082	0.231	0.055	0.363	0.055	0.165
	PR	0.550		0.297	0.102	0.231	0.231	0.580	0.297	0.139
	MR	0.653	0.033		0.055	0.258	0.231	0.165	0.000	0.440
	FR	0.327	0.163	0.165		0.033	0.408	0.053	0.516	0.607
	FC	0.110	0.163	0.490	0.163		0.606	0.110	0.055	0.165
	PC	0.405	0.429	0.000	0.082	0.055		0.055	0.033	0.220
	MC	0.172	0.572	0.275	0.245	0.202	0.429		0.429	0.110
	FL	0.165	0.429	0.099	0.245	0.245	0.297	0.165		0.092
	ML	0.490	0.000	0.245	0.327	0.134	0.474	0.490	0.408	

Table S6 Mann–Whitney U statistics comparing non-linear prefrontal connectivity at mid-beta frequencies (15 Hz – 18 Hz) between healthy controls and alcohol-addicted rats. A) Significant p -values given in bold, italic. B) Effect size (rank-biserial correlation) with $|r| \geq 0.1$ = small, $|r| \geq 0.3$ = medium and $|r| \geq 0.5$ = large effects (given in bold, italic).

A		From								
To		PR	MR	FR	FC	PC	MC	FL	ML	PL
	PR		0.699	0.537	0.429	0.429	0.730	0.841	0.931	0.905
	MR	1.000		0.792	0.537	1.000	0.030	1.000	0.429	0.699
	FR	0.699	0.937		0.841	1.000	0.114	0.030	0.537	0.937
	FC	0.485	0.310	0.310		0.792	0.662	0.247	0.690	0.413
	PC	0.310	0.792	0.310	0.126		0.413	0.421	0.690	0.310
	MC	0.931	1.000	0.537	0.699	0.537		1.000	0.429	0.537
	FL	0.662	1.000	0.841	0.931	0.690	0.690		0.476	0.556
	ML	0.485	1.000	1.000	0.792	0.914	0.111	0.008		0.841
	PR	0.610	0.662	0.589	0.413	0.841	0.905	1.000	0.730	
B		From								
To		PR	MR	FR	FC	PC	MC	FL	ML	PL
	PR		0.139	0.220	0.275	0.275	0.163	0.099	0.055	0.082
	MR	0.000		0.110	0.220	0.000	0.661	0.000	0.275	0.139
	FR	0.139	0.046		0.099	0.033	0.539	0.661	0.220	0.046
	FC	0.231	0.324	0.363		0.110	0.165	0.385	0.165	0.327
	PC	0.324	0.110	0.363	0.495		0.327	0.297	0.165	0.363
	MC	0.055	0.000	0.220	0.139	0.220		0.033	0.275	0.220
	FL	0.165	0.000	0.099	0.055	0.165	0.165		0.270	0.245
	ML	0.231	0.000	0.000	0.110	0.067	0.572	0.826		0.099
	PR	0.202	0.165	0.185	0.327	0.099	0.082	0.033	0.163	

Table S7 Mann–Whitney U statistics comparing linear prefrontal connectivity at high-beta frequencies (18 Hz – 30 Hz) between healthy controls and alcohol-addicted rats. A) Significant p -values given in bold, italic. B) Effect size (rank-biserial correlation) with $|r| \geq 0.1$ = small, $|r| \geq 0.3$ = medium and $|r| \geq 0.5$ = large effects (given in bold, italic).

A

		From								
		PR	MR	FR	FC	PC	MC	FL	ML	PL
To	PR		1.000	0.017	0.017	0.093	0.589	0.589	0.132	0.931
	MR	0.589		0.052	0.132	0.310	1.000	0.310	0.310	0.931
	FR	0.792	0.429		0.537	0.841	0.310	0.818	0.026	0.537
	FC	0.841	0.931	0.548		0.931	0.699	0.589	0.247	0.429
	PC	0.126	0.429	0.662	0.792		0.394	0.699	1.000	0.589
	MC	0.699	0.699	0.009	0.132	0.132		0.818	0.394	0.421
	FL	0.699	0.589	0.052	0.180	0.589	0.394		0.026	0.792
	ML	0.429	0.699	0.429	0.026	0.589	0.240	0.041		0.537
	PL	1.000	0.589	0.931	0.537	0.662	0.082	0.180	1.000	

B

		From								
		PR	MR	FR	FC	PC	MC	FL	ML	PL
To	PR		0.000	0.716	0.716	0.508	0.185	0.185	0.462	0.055
	MR	0.185		0.606	0.462	0.324	0.000	0.324	0.324	0.055
	FR	0.110	0.275		0.220	0.099	0.324	0.092	0.647	0.220
	FC	0.099	0.055	0.231		0.055	0.139	0.185	0.385	0.275
	PC	0.495	0.275	0.165	0.110		0.277	0.139	0.000	0.185
	MC	0.139	0.139	0.740	0.462	0.462		0.092	0.277	0.297
	FL	0.139	0.185	0.606	0.416	0.185	0.277		0.647	0.110
	ML	0.275	0.139	0.275	0.647	0.185	0.370	0.601		0.220
	PL	0.033	0.185	0.055	0.220	0.165	0.550	0.416	0.033	

Table S8 Mann–Whitney U statistics comparing non-linear prefrontal connectivity at high-beta frequencies (18 Hz – 30 Hz) between healthy controls and alcohol-addicted rats. A) Significant p -values given in bold, italic. B) Effect size (rank-biserial correlation) with $|r| \geq 0.1$ = small, $|r| \geq 0.3$ = medium and $|r| \geq 0.5$ = large effects (given in bold, italic).

A

		From								
To		PR	MR	FR	FC	PC	MC	FL	ML	PL
	PR		1.000	0.095	0.190	0.792	0.662	0.589	0.329	0.329
	MR	0.818		0.662	0.662	0.841	0.240	0.699	0.818	0.818
	FR	0.082	0.247		0.310	0.537	0.937	0.329	1.000	0.421
	FC	0.126	0.247	0.548		0.537	0.394	0.247	0.937	0.421
	PC	0.792	0.537	0.310	0.841		0.180	0.240	0.537	0.792
	MC	0.485	0.818	0.310	0.429	1.000		1.000	0.394	0.247
	FL	0.052	1.000	0.286	0.699	0.914	0.792		0.589	0.792
	ML	0.485	0.818	0.841	0.247	1.000	0.180	0.589		0.329
	PL	0.792	1.000	0.421	0.690	0.151	0.792	0.792	1.000	

B

		From								
To		PR	MR	FR	FC	PC	MC	FL	ML	PL
	PR		0.000	0.561	0.490	0.110	0.165	0.185	0.330	0.330
	MR	0.092		0.165	0.165	0.099	0.370	0.139	0.092	0.092
	FR	0.550	0.385		0.363	0.220	0.046	0.330	0.000	0.297
	FC	0.495	0.385	0.231		0.220	0.277	0.385	0.046	0.297
	PC	0.110	0.220	0.363	0.099		0.416	0.370	0.220	0.110
	MC	0.231	0.092	0.363	0.275	0.000		0.000	0.277	0.385
	FL	0.606	0.033	0.408	0.139	0.067	0.110		0.185	0.110
	ML	0.231	0.092	0.099	0.385	0.033	0.416	0.185		0.330
	PL	0.110	0.000	0.297	0.165	0.495	0.110	0.110	0.000	