Supplementary Information

Figure S1. Temporal dynamics of inter-hemispheric occipital coherence across the night. **Left column:** Average coherence spectra as percentage change of last relative to the first non-REM sleep episode (last non-REM sleep episode was determined individually in each subject and ranged from the 6th to 10th non-REM sleep episode, see Table 1). For last non-REM sleep episodes, only data were included which contained at least twenty 30-s epochs. Significant changes across the night are represented as dots at the bottom of the figure (bootstrap statistics, 0.2-Hz frequency resolution). Red dots refer to significant increases in coherence from the first to the last non-REM episode and black dots refer to significant decreases ($p < 0.05$). **Right column:** Temporal evolution of coherence across the night representing all non-REM sleep episodes (numbered). Spectra are expressed as a percentage change from the first non-REM sleep episode. Significant coherence changes across the night are represented as red (coherence increase) or black dots (decrease, $p < 0.05$, repeated measures ANOVA, factor “non-REM sleep episode”). Data are shown for the maximal number of non-REM sleep episodes completed by all subjects.
Figure S2. Temporal dynamics of inter-hemispheric central coherence across the night. For details see Figure S1.
Figure S3. Temporal dynamics of intra-hemispheric coherence in the left hemisphere across the night. For details see Figure S1.
**Figure S4.** Temporal dynamics of intra-hemispheric coherence in the right hemisphere across the night. For details see Figure S1.