Abstract:

The circadian clocks are cellular pacemakers of our physiology that are driven by dynamic feedback of gene expression. These are completely autonomous and self-contained activities of single cells, and yet the clocks communicate with other clocks to form a larger networked system. Naturally, we are inclined to ask why the networked clock is necessary for our brain function and how it emerges. We will go through some of the answers proposed, while not leaving out some of the remaining mysteries.