



A CIRCADIAN CURTAIN WALL

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We recently developed the Circadian Curtain Wall concept for a facade competition focused on wellness. The brief emphasized the importance of connecting inhabitants of office buildings with the outdoors and of the impact of natural light on our circadian rhythms.

The winners of last year's Nobel Prize in medicine were honored for research on circadian rhythm and how our internal clocks govern all aspects of human life. It's an important idea for sustainable design.

The symbol—the essence of the circadian daily cycle—is the arc of the sun across the sky. This is the yin and the yang of the day followed by night. The analog of this, the symbol of time, is the face of the clock and the circular revolution of the hands.

We created circular bay windows that could have some unshaded glass, allowing indirect natural light inside and views at all times to the outside. Automated shades could protect the glass oriented directly toward the sun.

We had done a research study involving curved glass that could span floor to floor without a mullion for support. This was the predecessor of the circadian bay window.

The double-skin façade has an automatic shading device protected in an enclosed cavity. WSP's engineers studied how to move air through this like a Trombe wall to cool and heat the perimeter of the floor. Ideally, the bay windows, especially the shade and geometry, would vary by orientation. The idea is for the building to be responsive to the sun and site, connecting the inside to the outdoors and nature.