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Sky Factory's Open Sky Compositions represent a new cognitive design technology.

Sky Factory Reveals the Neurobiology of Open Sky Compositions[™] at European Healthcare Design

June 4, 2018 – Sky Factory unveils how multisensory sky imagery, when captured, composed, and staged within an architectural context, alters the observer's experience of enclosed interiors. The company's abstract, *The Restorative Impact of Perceived Open Space*, will be displayed as a poster exhibit at the *Royal College of Physicians'* library during the *European Healthcare Design Conference*, in London, June 11-12. The abstract, based on Sky Factory's latest white paper and RIBA-recognized CPD, presents the evidence for multisensory *illusions of nature*[™] as a new cognitive design tool.

The presentation, based on Sky Factory's history of patient testimonials and peerreviewed research, reveals a pattern of deeper relaxation called *biophilic engagement*. Through a series of neurobiology and environmental design studies, this paper reveals how nature images can be deliberately designed to provide a therapeutic effect. Research suggests that these *illusions of nature* yield a deeper restorative effect than that which decorative nature photography provides.

The paper, supported by two peer-reviewed studies by *Texas Tech University's College of Human Sciences*, in collaboration with *Covenant Health* and Sky Factory, describes a more restorative design framework for biophilic design interventions. This new *Cognitive Biophilia* enhances the patient experience by staging multisensory *illusions of nature* in healthcare settings. Multisensory images of sky contain additional sensory information missing in standard commercial sky images. *Open Sky Compositions* are embedded with spatial, as well as visual cues, which when woven into the ceiling plane, mislead our

hardwired habits of perception into imbuing volume and depth into an otherwise twodimensional plane.

This misperception or illusion, which yields therapeutic benefits, is possible due to the central role that *spatial reference frames* play in sensory-motor stimuli processing. According to neuroscience, our memory stores experiences of place—environments and surroundings that we recognize—as spatial maps or reference frames. These maps are triggered when our sensory-motors systems *perceive* the same set of contextual or structural cues that correspond to a previously experienced *spatial reference frame*.

When designers evoke this fundamental reference frame, it is possible to generate a *perceived* zenith. Given that the sky, humankind's most universal experience of nature, is deeply embedded in our collective memory, Sky Factory artists can deliberately compose photographic *illusions of sky* that engage the cerebellum, often involved in spatial cognition and depth perception.

"While evidence-based designers are well acquainted with the application of representational nature imagery to create a positive distraction effect in clinical environments," said Debajyoti Pati, PhD, principal investigator and co-author of the *Texas Tech University* study, "no one had yet employed imaging technology to uncover the neural correlates of nature imagery designed to be perceived, not as a symbolic artifact, but as a *spatial reference frame* that engages the cerebellum."

"This research confirms our success in introducing compositional principles and elements into sky images that create the visual cues necessary to trigger biophilic engagement, an automatic 'relaxation response' like we experience in natural environments. The study also confirms that some compositional relationships are more successful in giving rise to a spatial illusion of nature than others," remarked Bill Witherspoon, Sky Factory's *Chief Designer* and founder.

The award-winning study in neuroarchitecture that discovered the neural correlates of nature stimuli as represented by Sky Factory's *Open Sky Compositions* will also be presented at the *Academy of Neuroscience for Architecture* (ANFA) at their bi-annual conference at the Salk Institute, September 20-22.

Further, in 2017, this pioneering study was awarded the *Certificate of Research Excellence* (CORE) by the *Environmental Design Research Association* (EDRA) and the *Scholar of the Year Award* by Planetree International, a patient advocacy group, for significant research contributions to enhance the patient experience.

For more information visit the exhibit floor (booth 2) or www.SkyFactory.com