Interior MARSitecture: The Importance of Designing for Psychological Wellbeing in Isolation and Confinement

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Within the next 20 years it is almost certain that we will see the first humans on Mars. A planet with a surface so harsh that a habitat capable of shielding the astronauts from radiation will be essential for their survival. Beyond physiological concerns, a growing body of research aims to understand the equally challenging psychological problems catalysed by environments that are incompatible with human life.

The design of interior spaces that consider the psychological wellbeing of occupants will be essential in ensuring the success of human missions to Mars. This paper firstly presents ongoing research that explores the ways in which interior design recommendations and interventions can mitigate stressors that would be experienced by astronauts, in an effort to improve the quality of life for those who may one day occupy Mars indefinitely. An astronaut’s daily routine on Mars will consist entirely within a habitat no bigger than a small suburban home, this habitat will be shared with others and account for all of a
person’s leisure, work, home, sleeping, recreational, fitness, social and medical needs. Secondly, this paper outlines why Mars habitats are the ultimate exercise in interior design for wellbeing, requiring empathetic design expertise in addition to the most advanced engineering and technologies. Finally, the need for design of a Mars habitat to be the most multidisciplinary design project ever undertaken will be explained.

**Author(s) Biography (200 words each):**

Jennifer Lane is a doctoral student and sessional academic at Curtin University in Perth, Western Australia. She graduated her Interior Architecture degree in 2018 after completing her honors thesis in Mars Habitat Design. She began a PhD to conduct further research in the field of space architecture, with her research dubbed ‘Interior MARSitecture’.

Jennifer has presented and discussed her research on various media platforms including television and podcasts. She also guest lectures for the general public, high school and university students. Each time capturing the imagination of her audience in exploring the far (far!) impact that design research can have. Jennifer is passionate about the links our physical environment has with the human psyche, and learning more about environmental and evolutionary psychology in order to design better spaces. In her spare time Jennifer enjoys getting outside and spending time in nature, as well as gazing up at the planets, moons and stars.