

## Architectural Robotics in Micro Living Spaces: An Approach to Enhancing Wellbeing

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**Abstract :** This paper will demonstrate why the most successful and livable cities in the future will require multi-disciplinary designers to develop a deep understanding of peoples' changing lifestyles, and why new generations of deeply integrated products, services and experiences need to be created. Disseminating research from the UNEP Creative Economy Reports and through a variety of other consumption and economic-based statistics, a compelling argument will be made that it is peoples' living spaces that offer the easiest and most significant affordances for inducing positive changes to their wellbeing, and to a city's economic and environmental prosperity. This idea, that leveraging happiness, wellbeing and prosperity through creating new concepts and typologies of 'home', puts people and their needs, wants, desires, aspirations and lifestyles at the beginning of the design process, not at the end, as so often occurs with current-day multi-unit housing construction. As an important part of the creative-reflective and statistical comparisons that are necessary for this on-going body of research and practice, Professor Antoniuk created the Micro Habitation Lab (mHabLab) in 2016. By focusing on testing the functional and economic feasibility of activating small spaces with different types of architectural robotics, a variety of movable, expandable and interactive objects have been hybridized and integrated into the architectural structure of the Lab. Allowing the team to test new ideas continually and accumulate thousands of points of feedback from everyday consumers, a series of on-going open houses is allowing the public-at-large to see, physically engage with, and give feedback on the items they find most and least valuable. This iterative approach of testing has exposed two key findings: Firstly, that there is a clear opportunity to improve the macro and micro functionality of small living spaces; and secondly, that allowing people to physically alter smaller elements of their living space lessens feelings of frustration and enhances feelings of pride and a deeper perception of "home". Equally interesting to these findings is a grouping of new research questions that are being exposed which relate to: The duality of space; how people can be in two living spaces at one time; and how small living spaces is moving the Extended Home into the public realm.

**Keywords :** architectural robotics, extended home, interactivity, micro living spaces

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