ROBOTIC FUTURES

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建筑机器人建造

袁 烽, (德) 阿希姆·门格斯, (英) 尼尔·里奇 等著
Design of Robotic Fabricated High Rises 2

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In the context of the Future Cities Laboratory (FCL) at the Singapore-ETH Centre (SEC), the Professorship for Architecture and Digital Fabrication of Fabio Gramazio and Matthias Kohler has built up a unique laboratory to research the potentials of robotic processes for the design and construction of high rise typologies in Southeast Asia. The research team of Module II is representing the FCL and has built a unique laboratory to investigate how computational design, coupled with robotic technologies has the potential to liberate this interesting building type from its still dominant, but culturally and technologically obsolete subjectification to the economies of scale, of serialisation, and standardization. Design of Robotic Fabricated High Rises 2 is being conducted for the second consecutive year. In 2013, it was organized as collaboration with the Faculty of Architecture of the National University of Singapore (NUS). While the first year Robotic Fabricated High Rises 1 focused on experimentation with the robotic facilities in order to define material and fabrication processes that are suitable for 1:50 scaled model building, the second year builds upon previous experiences and is more geared towards an evolution of architectural typologies.
"Vertical Avenue": This project proposes a spiralling circulation system that provides public programmes and parks vertically throughout the tower. The building consists of three high-rise towers with apartment clusters around the central cores. A system of staggered open public spaces is connected by a continuously upward-spiralling ramp, which serves as a public meeting space and park.

*Sequential Frames*: The design intention of this tower is to create a multitude of unique interior spatial experiences out of simple geometrical elements, by deploying the full power of computation. The towers are planned as linked strands that branch and merge into an undulating overall shape, bridging a Singaporean highway and connecting two adjacent parks.

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"林立": 建築物間隔了一個可以供應公共空間和垂直架的層疊式的循環系統，整體機械結構並以核心輔助周圍的高層公寓

"聯繫": 這種接點更通過構架設計應用到結構，在幾何元素之間創建一種擁有眾多獨特室內空間的體驗。計劃將結構作为一种連接手法，通過分歧和聚合來形成一個起伏的整體形狀，從而連接了週圍的公園和兩個臨近的公園。

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Mesh Towers: This project proposes a porous mesh of slender tower strands as an alternative to a massive condominium project, placing adjacent to a conservation area of Singapore. The footprints of its overall shape are minimized, keeping the ground level open for park and complementing the historical structure of its surroundings.

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