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27th World Congress of Architects

Project Name: RRRolling Stones: Transforming Public Interactions and Urban Environments Through Technology

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Country: United States



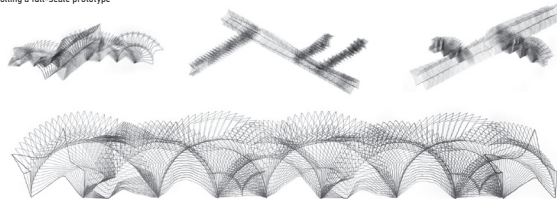
Project Description: RRRolling across the meadows of an urban park are twenty-five 3D printed concrete follies. The stones are both smooth and jagged, each turn reveals new curvature and seating profiles which adapt to different body types and sizes. Leveraging movement architecturally and as folly itself, park visitors discover new seating configurations with each turn. Responding to scales within the public landscape, the RRRolling Stones form a long continuous bench object, aggregate into smaller benches, or disperse entirely to form different size seating groups or solitary compositions. The seats are constructed using a self-built and large-scale 3D printer. 3D printing with concrete enables the creation of 25 affordable and self-similar, but ultimately entirely individual seats. Whether small or large, tall or big, each body type is represented in the concrete profiles.

Despite appearances, this is not a cookie-cutter design! While sectional profiles reference archetypes of chairs, seats, and lounge chairs, the layered fabrication process creates a comfortable textured seating surface. Through its ability to reconfigure, the RRRolling Stones project promotes playful novel forms of public design participation, enabled by the use and adaptation of new construction technology. The 3D printing method offers a path towards a sustainable concrete architecture, requiring no formwork for construction and significantly reducing waste material. RRRolling Stones provide a critical example of how technology can assist architects in combating the effects of climate change through the development of smart and sustainable construction techniques. In the process, new design opportunities emerge.

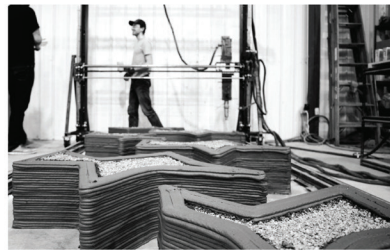
Project Credits: RRRolling Stones. Winner of Folly/Function Competition 2018: Seats. Long Island City. 2018. HANNAH project leadership: Leslie Lok and Sasa Zivkovic (Principal) / HANNAH project team: Kun Chen, Olivier Ducharme, Alexandre Mecatuf, Todd Petrie / HANNAH representation team: Jingjing Liu / HANNAH assembly and documentation team: Christopher Battaglia, Wachira Laangiam, Anantachai Vongvanij, Burak Unel / Project realized with scientific support from the Cornell Robotic Construction Laboratory (RCL) / Sponsors: AAP College of Architecture, Art, and Planning; AAP Department of Architecture / Client: Architectural League of New York and Socrates Sculpture Park. Photography: Zachary Tyler Newton, Scott Lynch



Rolling a full-scale prototype



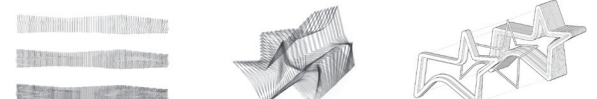
Diagrammatic project drawings



Custom 3D printing process at Cornell RCL



Seat detail



Diagrammatic project drawings

Steel rebar layer

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