3 TEAMS. 3 DESIGN PROBLEMS. 1 MISSION:

INNOVATE WITH GENERATIVE DESIGN.

Three teams from three continents traveled to Autodesk's Toronto Technology Centre last summer for a two-week Generative Design for AEC Intensive residency.

Here are the results of the residency teams.

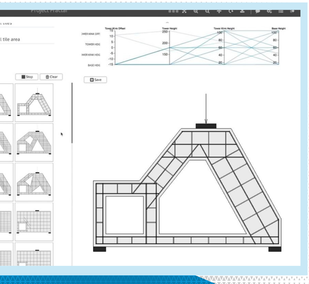
1 OPTIMIZING REINFORCED CONCRETE

WHO

Hone Structures, born out of Marcos Silveira's doctoral research, is a Brazil-based company that aims to develop a new approach to design and building processes for optimized reinforced concrete structures.

EXPERIMENT

Used generative design to optimize reinforced concrete around several variables – including cost, weight, materials use, fabrication time, and performance.



> The residency helped us fix our path to our long-term goals. If we had not had this residency, maybe a year in the future we would run into certain barriers. Now we already know that those barriers are there, and we are working to avoid them."
>
> - *Gabriela Vivan*
> *Hone Structures Intern*

2 MASTER PLANNING

WHO

Parsons, a full-service firm of urban designers, planners, engineers, architects, landscape architects, consultants, and technical specialists.

EXPERIMENT

Used generative design processes to optimize master planning by maximizing the design's residential area for solar gain, primary views, and pedestrian circulation.

> Generative design gave us a doorway to many possible solutions, but also to many new ways of thinking. The residency showed us how to create a more informed and scientific approach to design decisions."
>
> - *Theofano Antonakou*
> *Architect and Urban Designer*

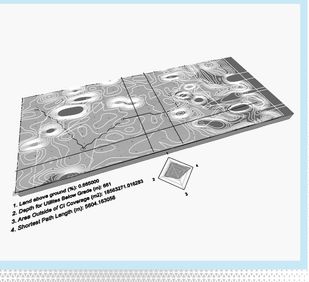
3 PREPARING FOR CLIMATE CHANGE

WHO

Research team from the University of Toronto

EXPERIMENT

Use generative design to analyze geospatial data and propose design variations to help Broward County prepare for and adapt to climate change and sea level rise.



> We used geospatial data about sea levels, property parcels, density, and other geographical characteristics of the county to help guide some of the design variations. Now we can bring that information back to policy makers to help them make better decisions with regards to planning around climate resilience."
>
> - *Isaac Seah*
> *Research Assistant*

AUTODESK.