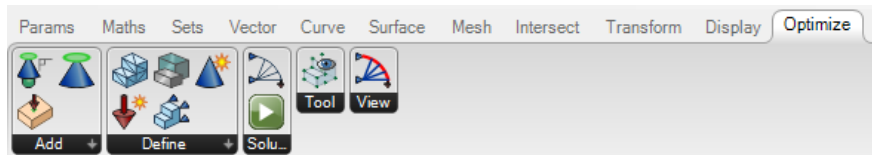


## IABSE Future of Design Conference 2017

## Optimization Workshop

**Grasshopper Plugin Quick Reference**

The Grasshopper plugin provides components that can be used generate optimized truss designs in a parametric modelling environment. These components can be found in the *Optimize* tab in Grasshopper.



Alternatively, you can double click anywhere on the Grasshopper canvas and type the component name to find a component.

**1. Specify a design problem**

Three components are required:

<b>[Design domain]</b>	Creates a design domain from a triangulated mesh.
<b>[Load case]</b>	Specifies a load case.
<b>[Supports]</b>	Adds support conditions.

**2. Solve the optimization problem**

Use **[LPSolver]** to solve the problem you specified. Note that you need to set its *Enable* input to *true* to run the optimization process; this is due to the fact that the optimization may take some time to complete.

**3. Check the solution**

Use **[Solution Viewer]** to show the outcome layout.

**4. Use a user-defined layout**

Use **[Construct Topology]** to manually create a truss topology (i.e., layout) via a set of lines.

**Important Notes**

The Grasshopper plugin is still in development and currently does not allow geometry optimization rationalization of the structure. Also, as this is an early version of the plugin you may encounter unexpected behaviour; please contact a member of staff if you need assistance.