

## DAY 1: INTRODUCTION + BASICS

1. What is “scripting”?
2. What is Grasshopper?

### **Grasshopper Interface**

1. Rhino model space, Grasshopper work space.
2. Opening, editing and saving a definition
  - a. \*.ghx files
3. Navigating the definition
  - a. Panning
  - b. Zooming
  - c. Resetting
  - d. Storing Views
4. Component Tabs and Libraries
  - a. Params
  - b. Logic
  - c. Scalar
  - d. Vector
  - e. Curve
  - f. Surface
  - g. Mesh
  - h. Intersect
  - i. XForm
  - j. Complex *NEW*
5. Component Search – Component Find
  - a. Left double-click in work space to search component library
  - b. Right-click in work space to search definition *NEW*
6. Display Modes
  - a. Shaded
  - b. Wireframe
  - c. No Preview
7. Behavior widget
  - a. Predicts your next move based on your usual operations. *NEW*

### **Component Interface**

1. Drag & Drop components into workspace
2. Double-Click component search
3. Component Colors
  - a. Light Grey – with data
  - b. Orange - empty
  - c. Red – error
  - d. Dark color – Preview off
4. Connecting components
  - a. Input – Output
  - b. Connect
  - c. Disconnect
  - d. Multiple Inputs
5. Copy & Pasting components (ctrl-C + ctrl-V)
6. Undo & Redo (ctrl-Z + ctrl-Y) *NEW*
7. Disable Components *NEW*
8. Shift Upstream, Shift Downstream

9. Preview components On/Off
10. Change component name
11. Draw icons
12. Grouping components *NEW*

### **Component Types**

1. Primitive components
  - a. Holding values
  - b. Translating data
2. U/I components
  - a. The Slider
  - b. Panel
  - c. Gradient
  - d. Receiver
  - e. Graph
  - f. Param viewer
  - g. Pie chart *NEW*
3. Geometry Parameter components
  - a. Generating geometry
  - b. Referencing Rhino model geometry

### **Component Data**

1. Left to right, Input-output
2. Volatile data management
3. Persistent data management
4. Data handling
  - a. Lists of inputs
  - b. Matching lists of data
5. Component preview
  - a. Selecting components
  - b. Model space preview
6. Baking
  - a. Preview geometry to Rhino geometry

### **Grasshopper Basics Example Files**

GH\_01\_Basic List Management.ghx  
GH\_02\_Shift.ghx  
GH\_03\_Split.ghx  
GH\_04\_Cull Pattern.ghx  
GH\_05\_Logic + Scalar.ghx  
GH\_06\_Distance Logic.ghx  
GH\_07\_Data Path + Tree.ghx  
GH\_08\_Random Flowers.ghx  
GH\_09\_Lofted Circles.ghx  
GH\_11\_Surface Paneling Method (Even).ghx  
GH\_12\_Surface Paneling Method (Uneven).ghx