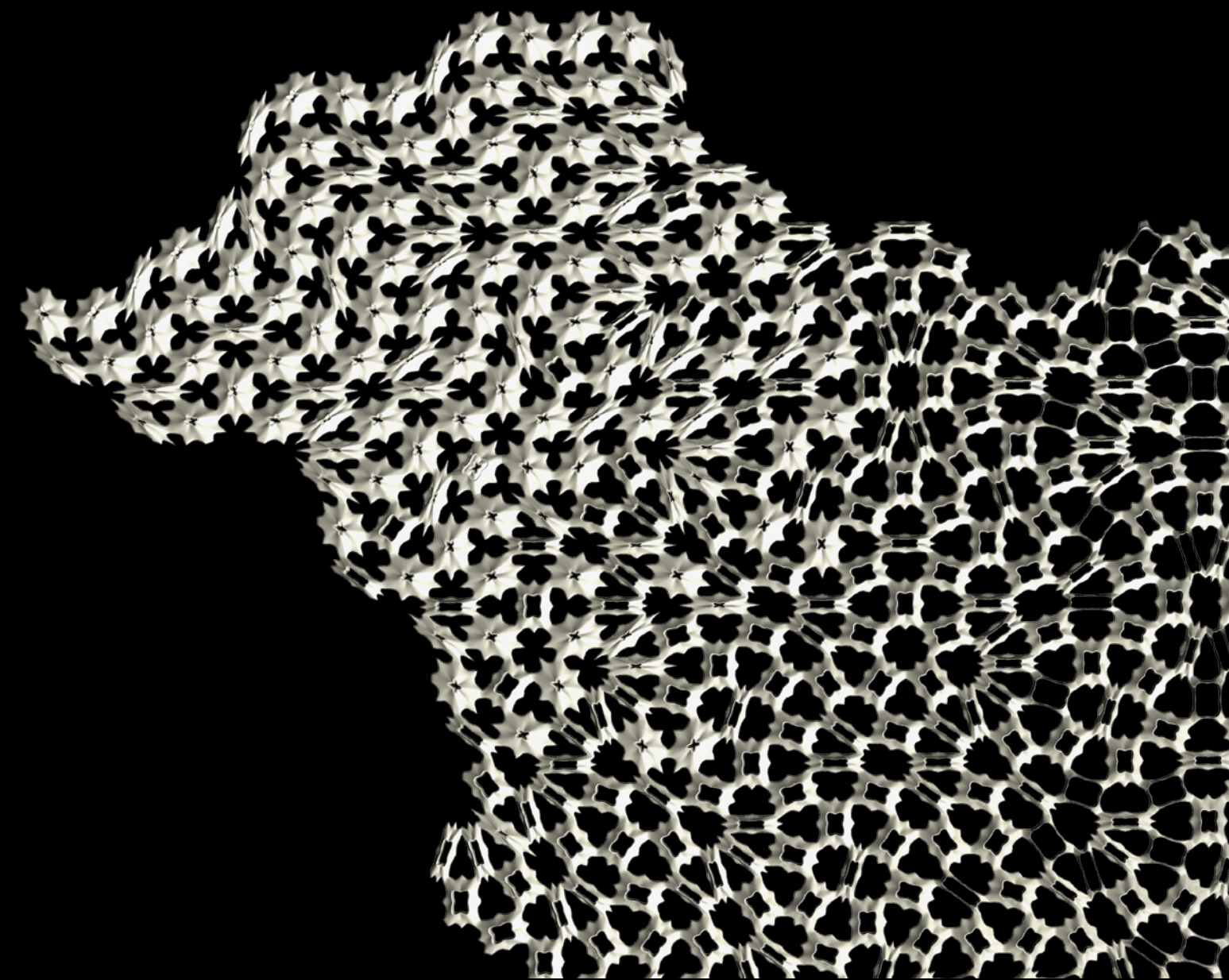
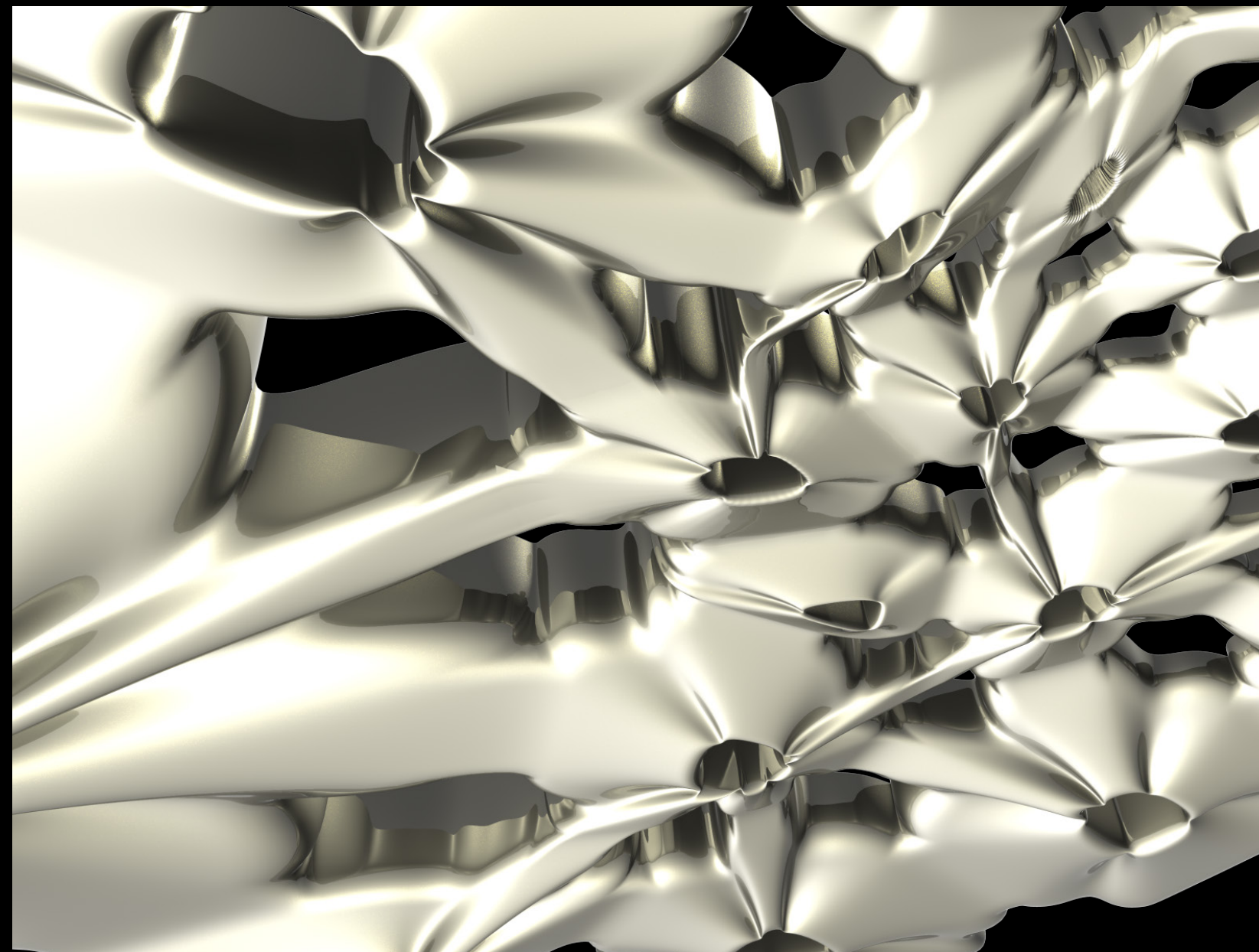
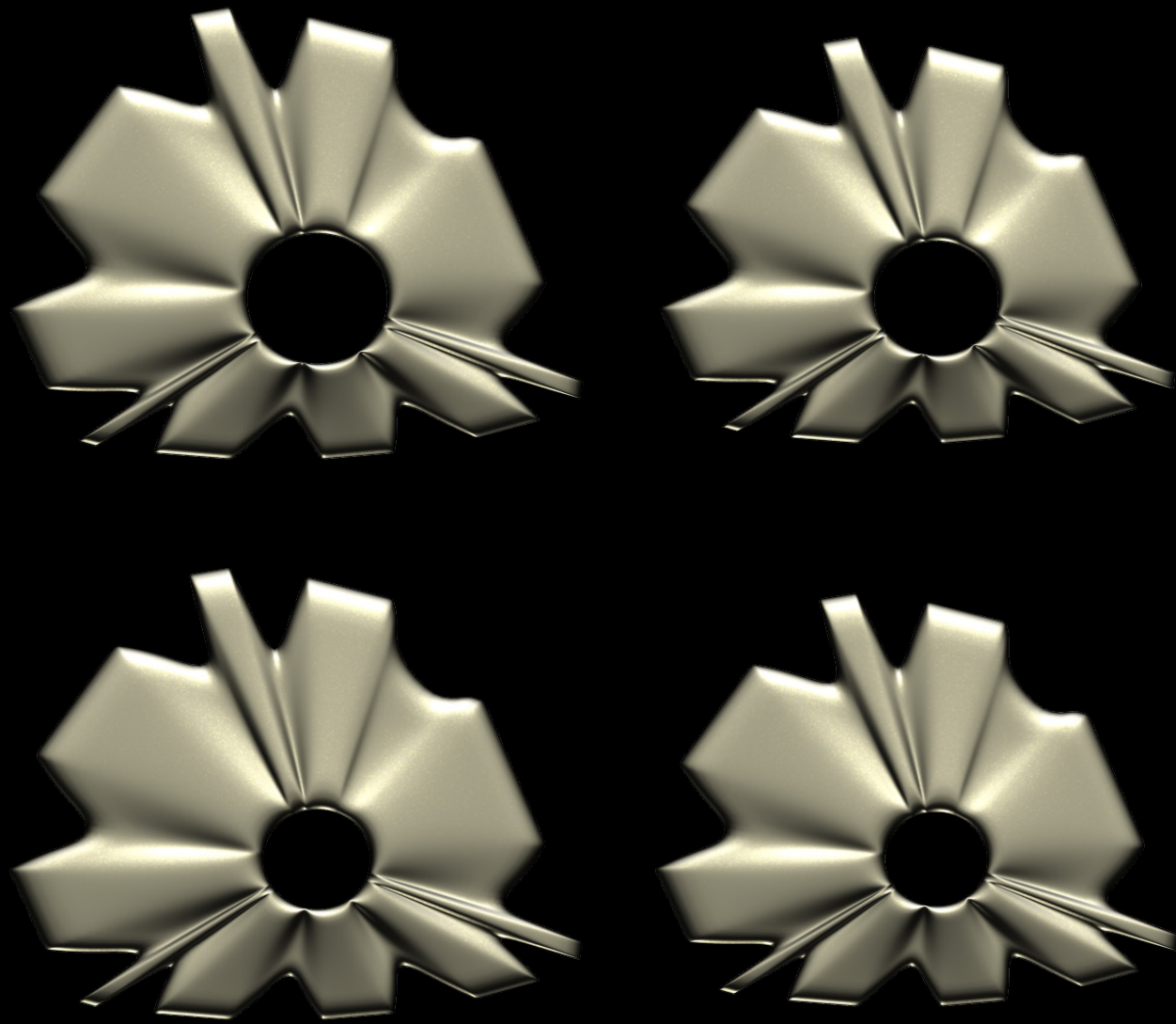


Computational Design

Multi Scalar Adaptive Systems

PARAling



PARAling

KOL/MAC LLC

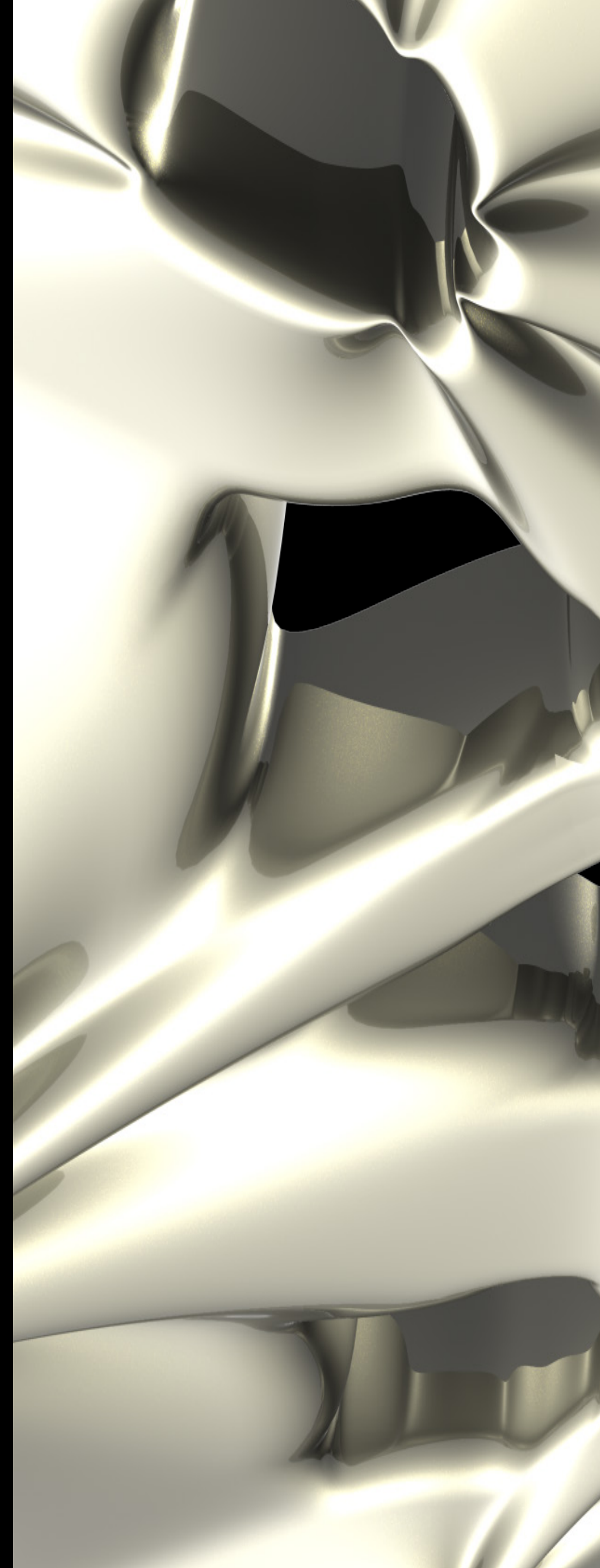
Sulan Kolatan and William MacDonald

With Robert Cervellione

www.kolmacllc.com

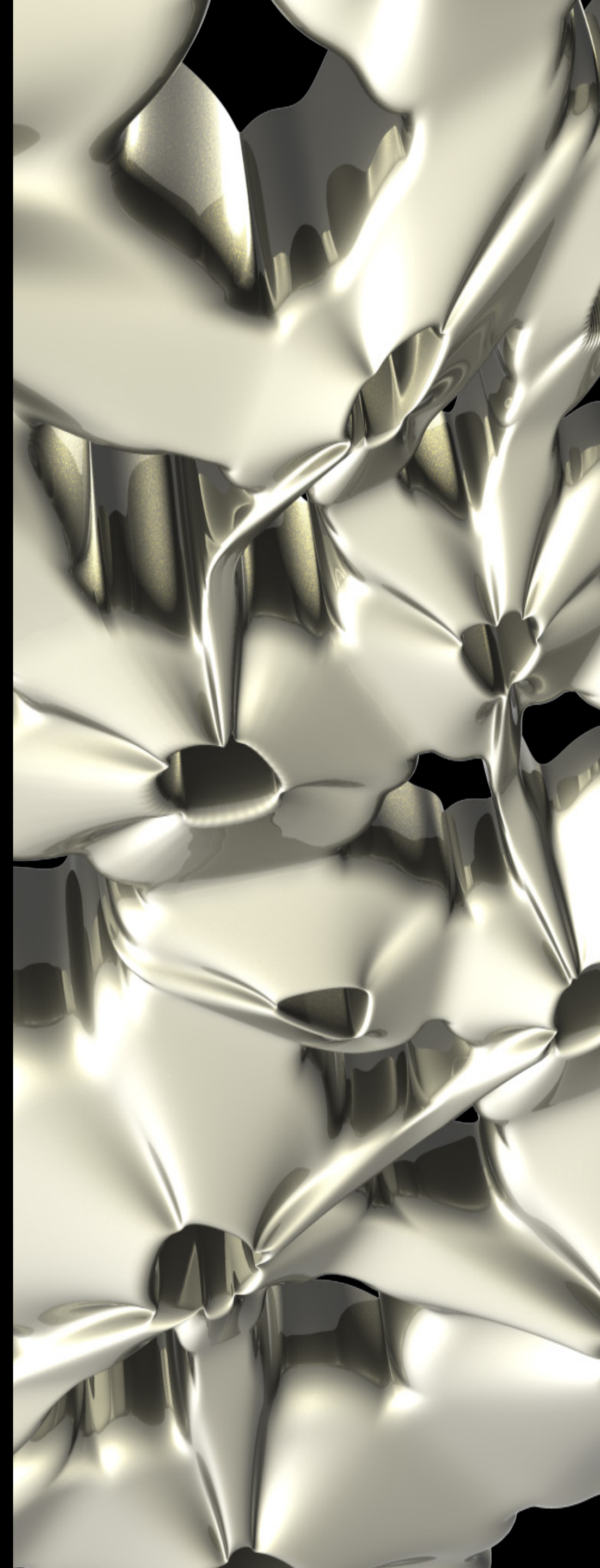
Concept

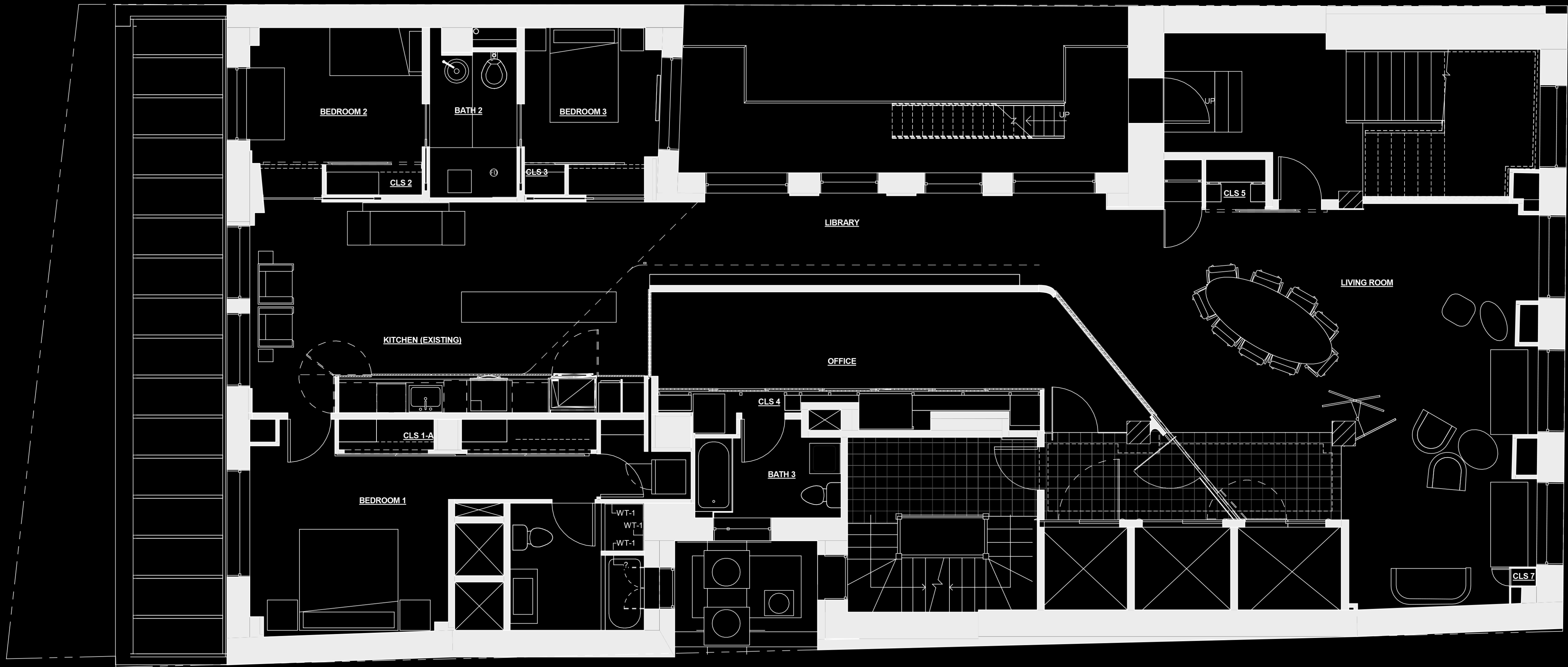
The combined use of artificial intelligence and parametric design tools equips the PARAling ceiling system with an unprecedented capacity for adaptation to existing conditions, functional requirements and esthetic desires through smart transformation.



Design Considerations

- *Generation of situational edges: orthogonal boundaries to make clean connections to walls and partitions; figural boundaries where desirable; ceiling to wall transformations*
- *Change of cell scale: response to varied space size*
- *Change in density and geometry: response to different infrastructural requirements located in and above the ceiling*
- *Wide range of esthetic variation: flat/volumetric, open/closed, floral/rectilinear.*
- *Different rates of change: slow or fast transitions between regions of cell types*
- *Rate of cell geometry iteration: minimum 2 cell types necessary to generate total ceiling; maximum all cells are unique*
-



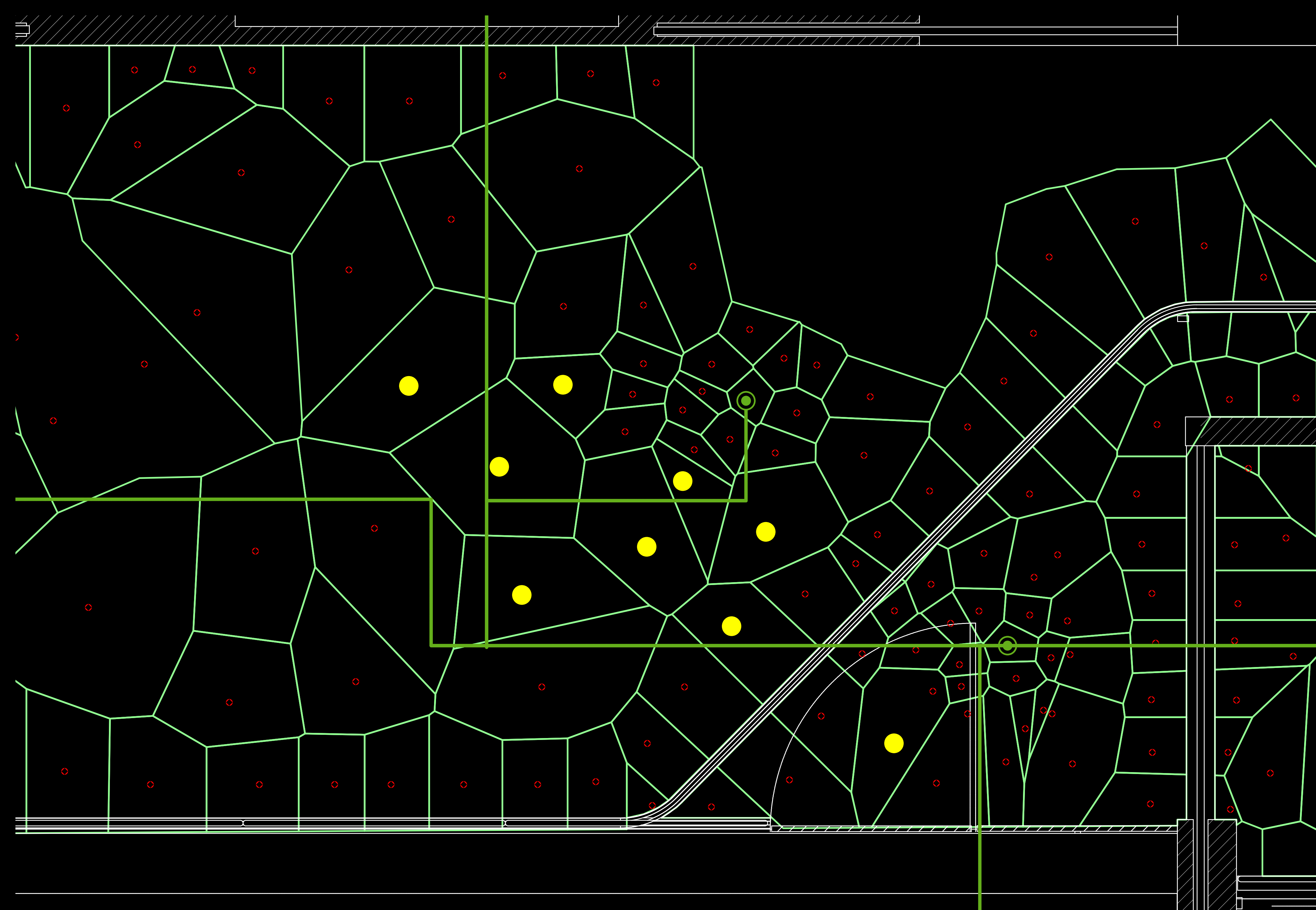




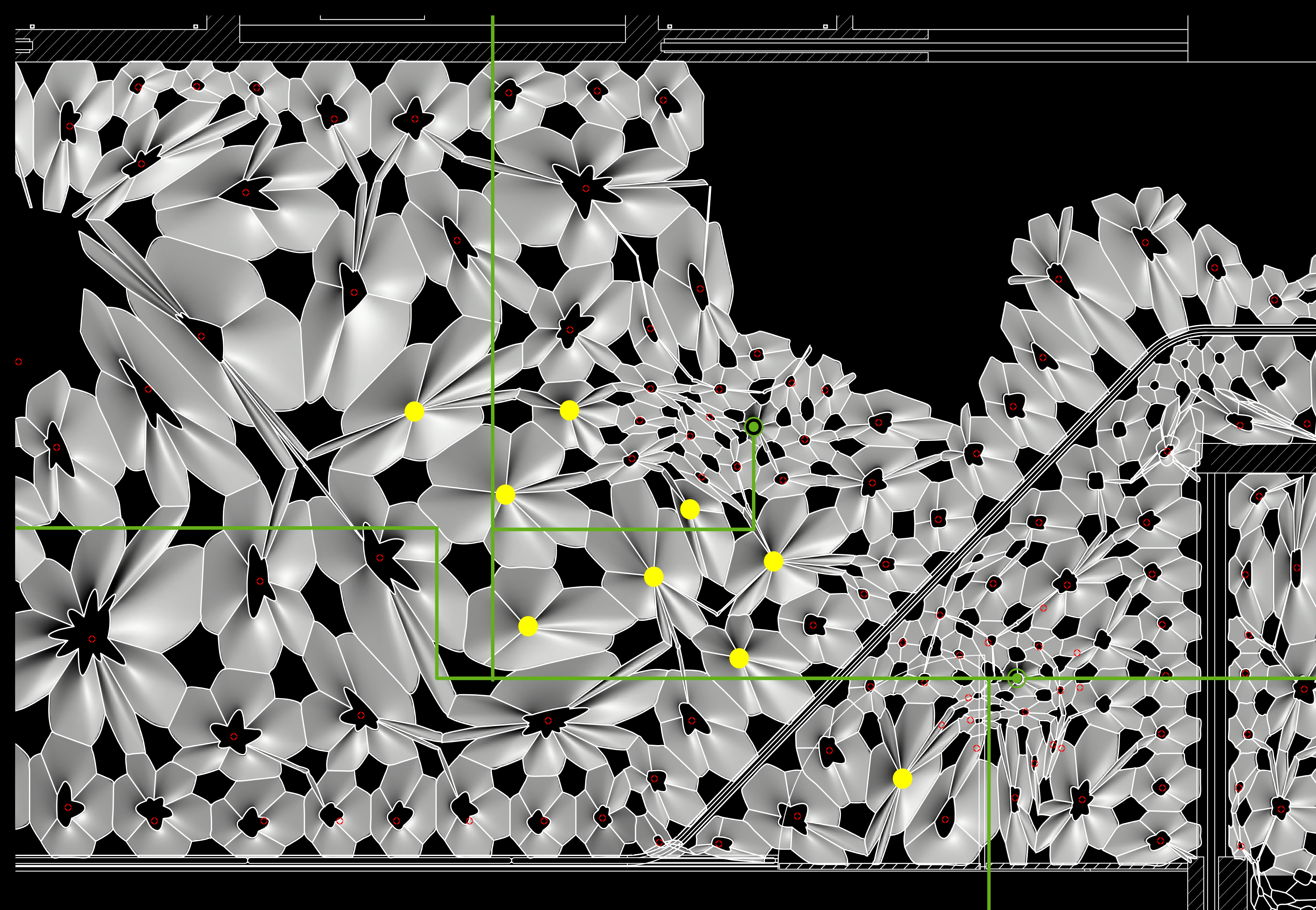
***RCP Showing Ceiling Systems with Mech ,Sprinkler ,
and Lighting Systems***



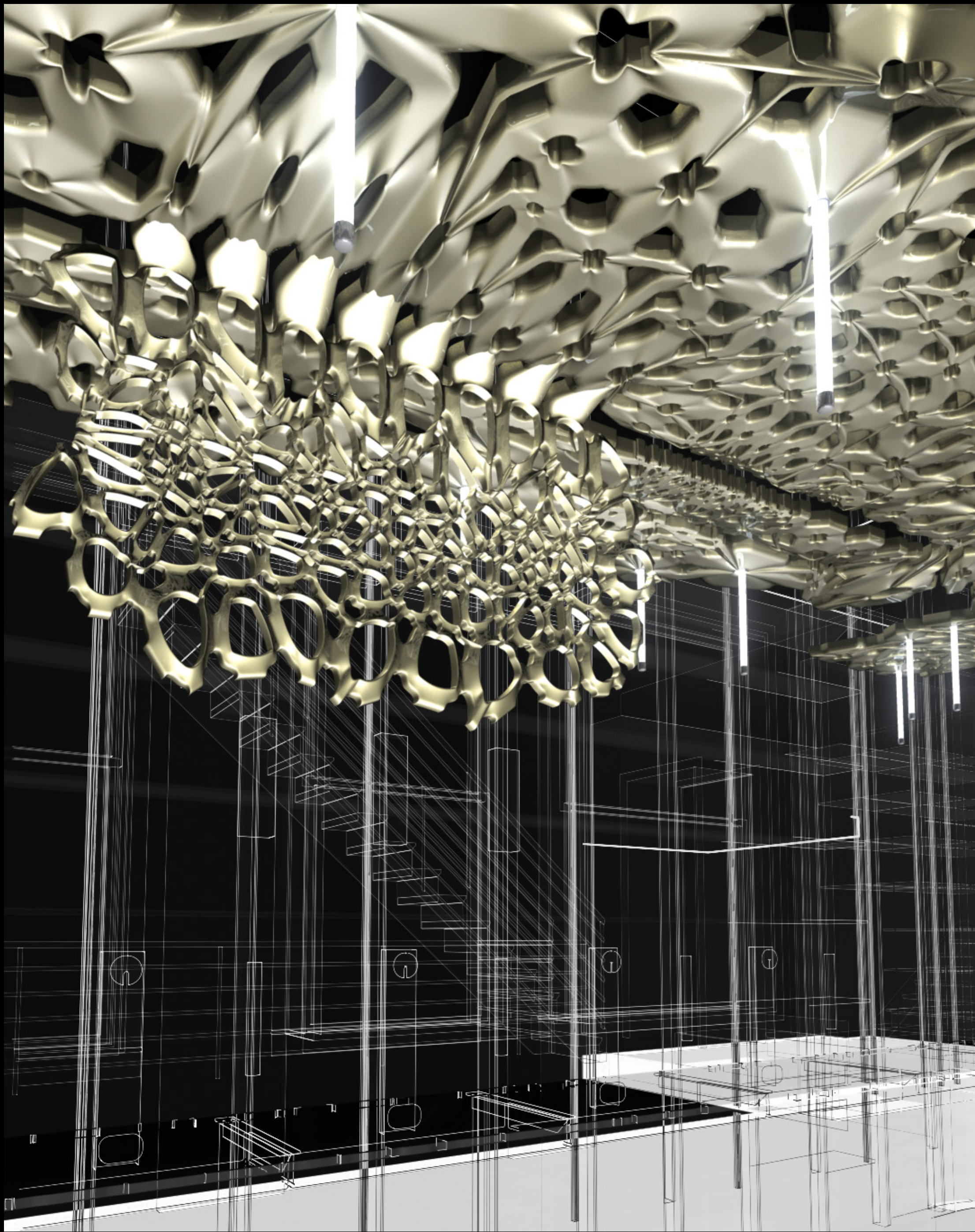
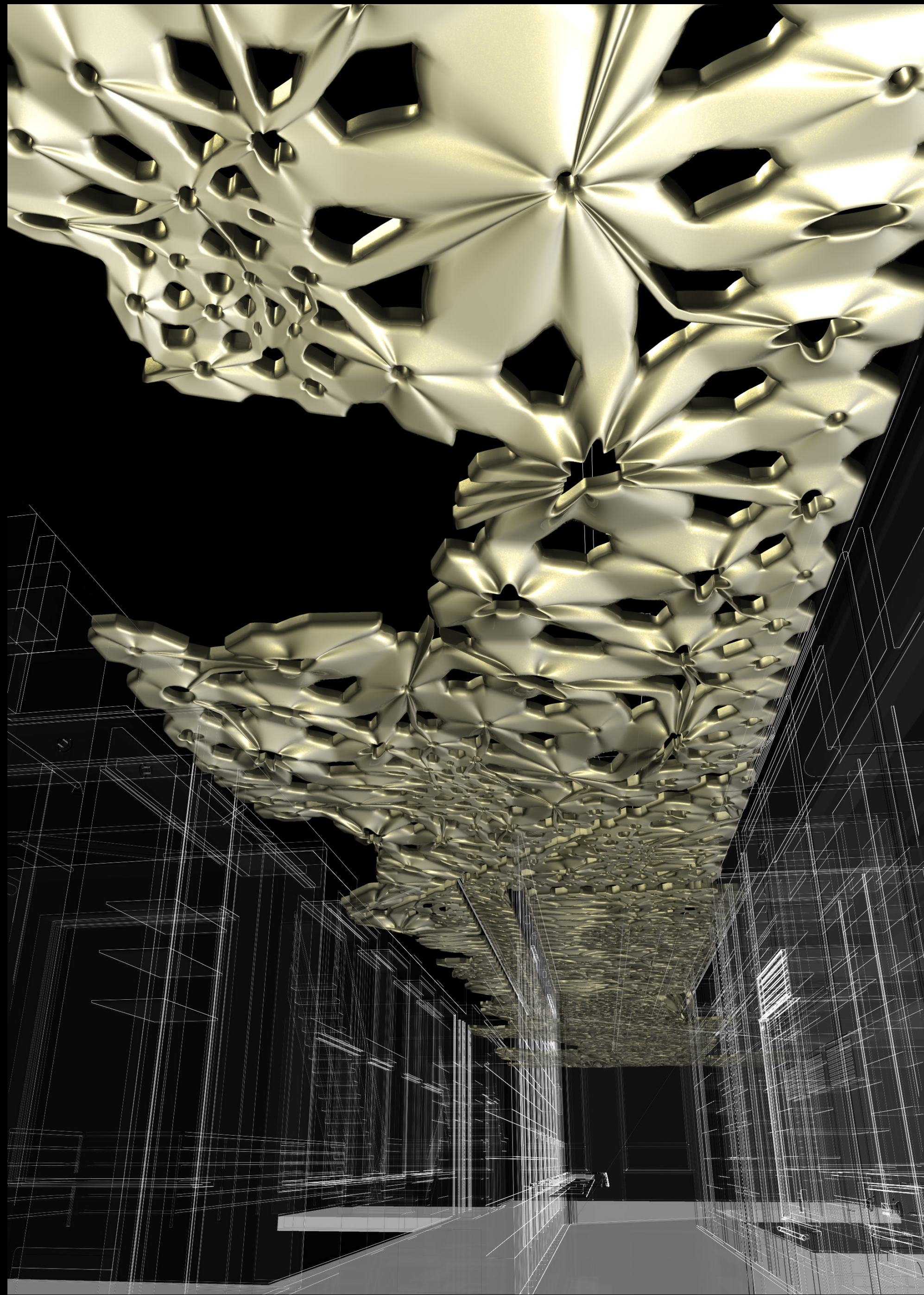
Plan of office with AI-Based distribution considering boundaries and existing/new Systems

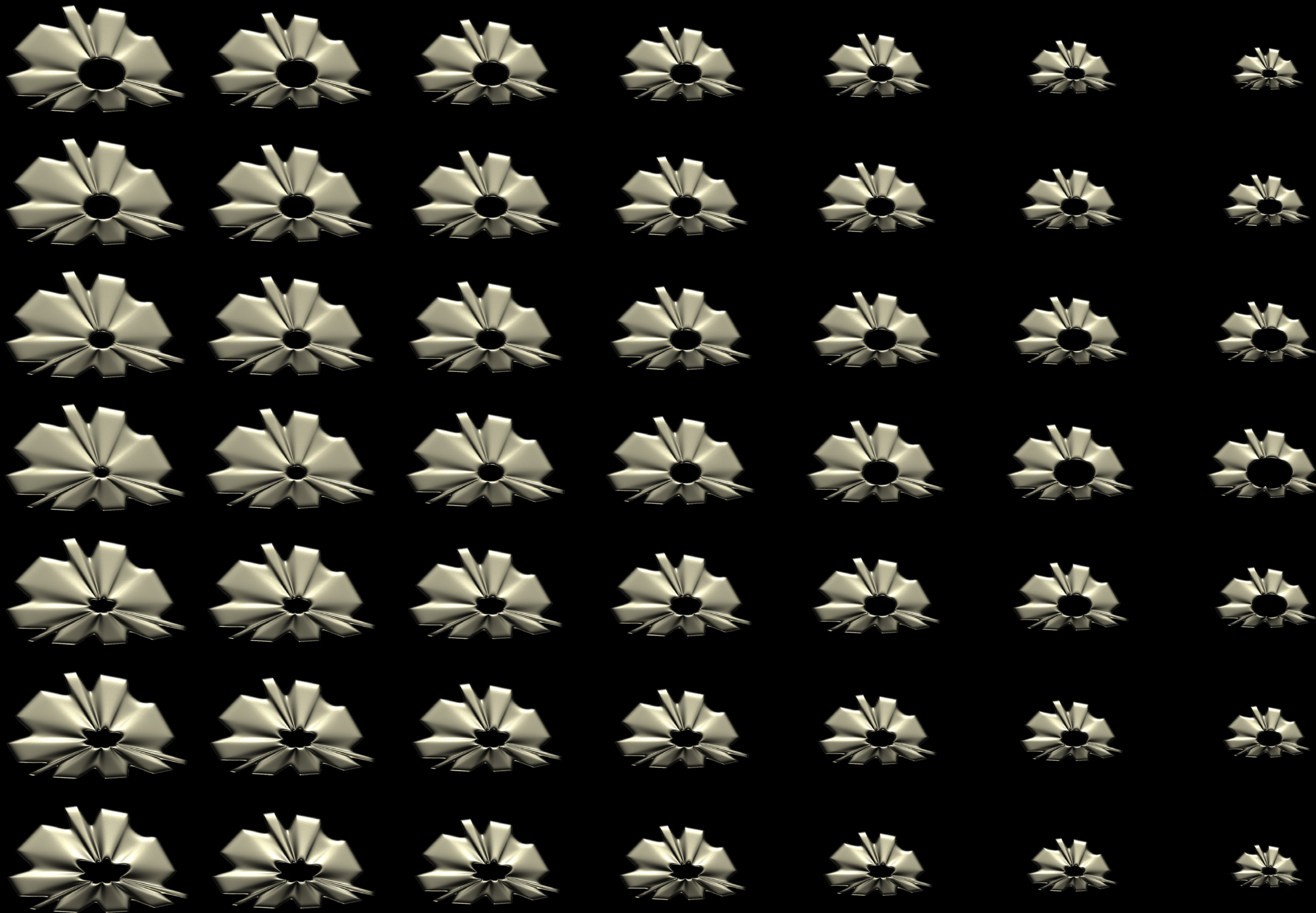


***Plan detail showing
resulting panel
boundary conditions
derived from
particle locations***

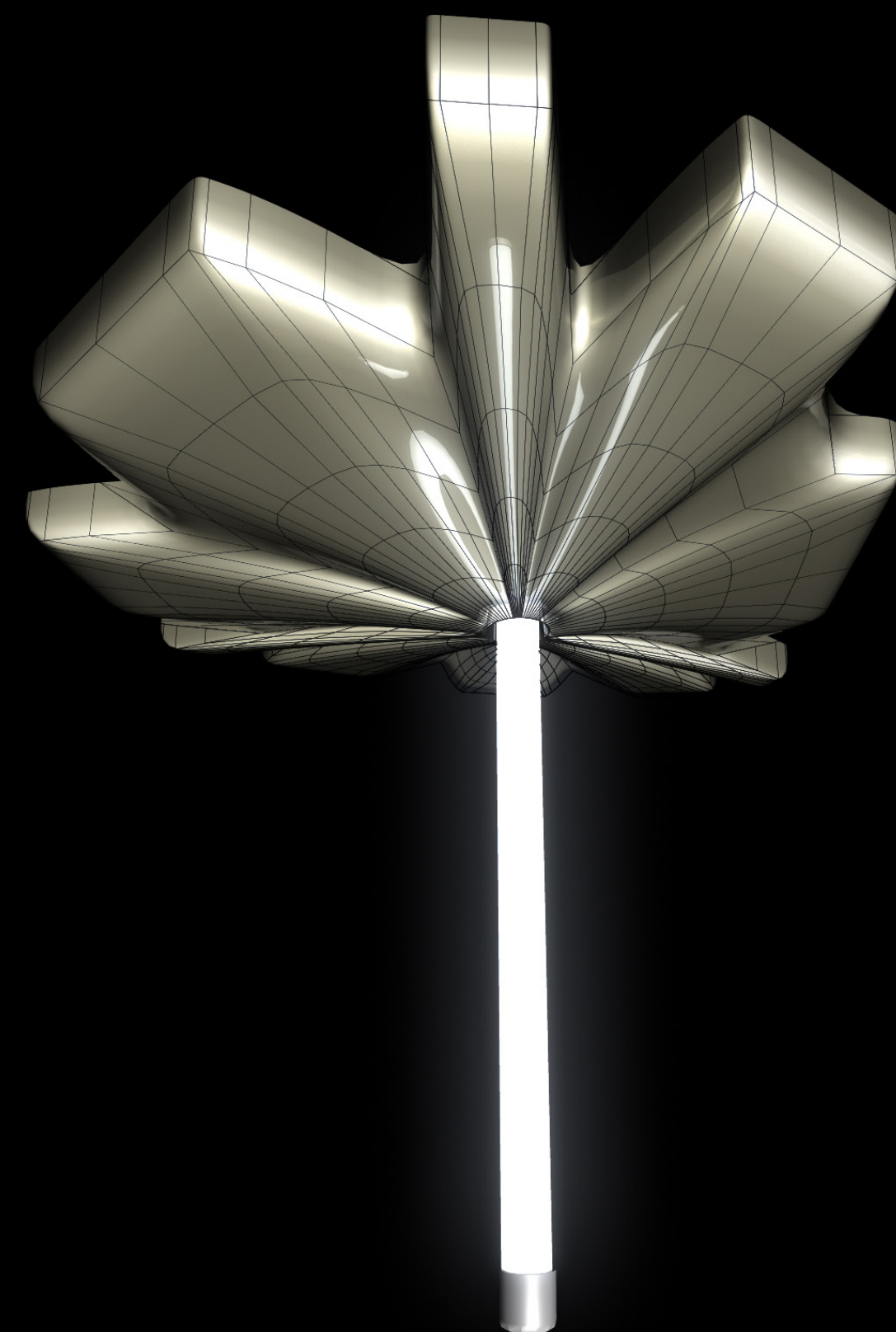
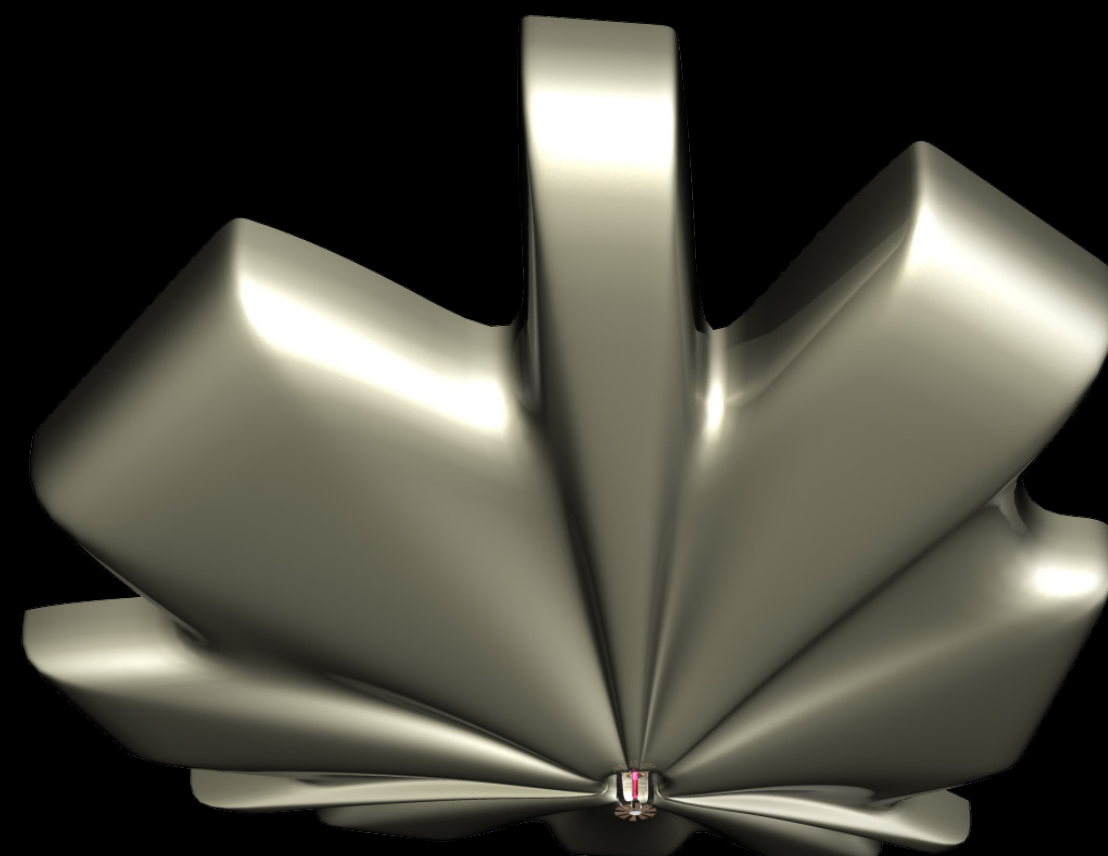
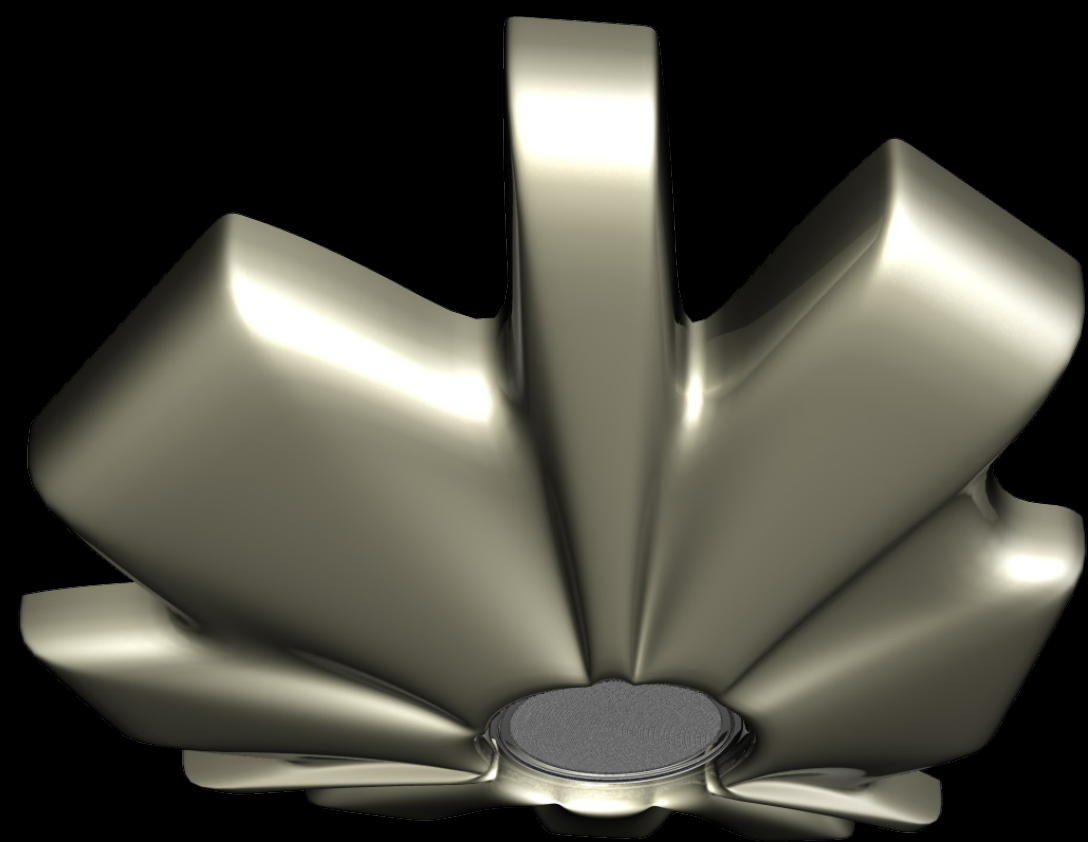
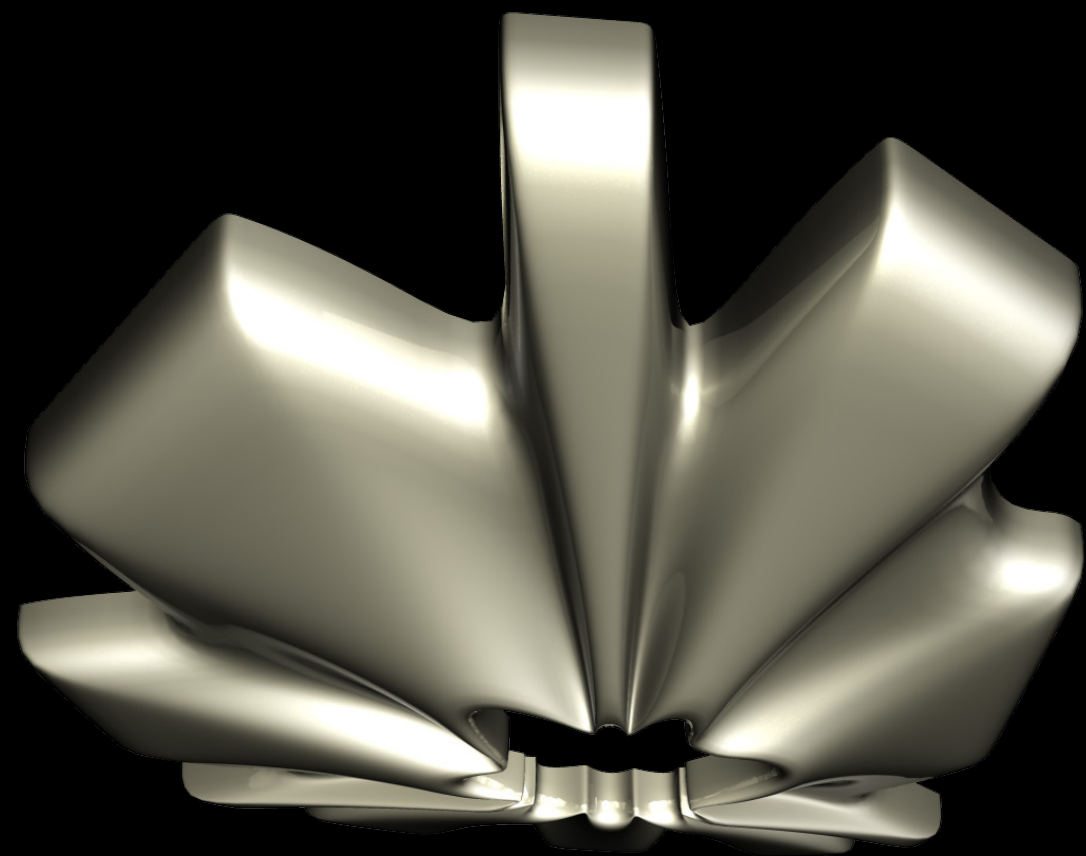


***Plan detail showing
resulting panels.
Each panel is unique***

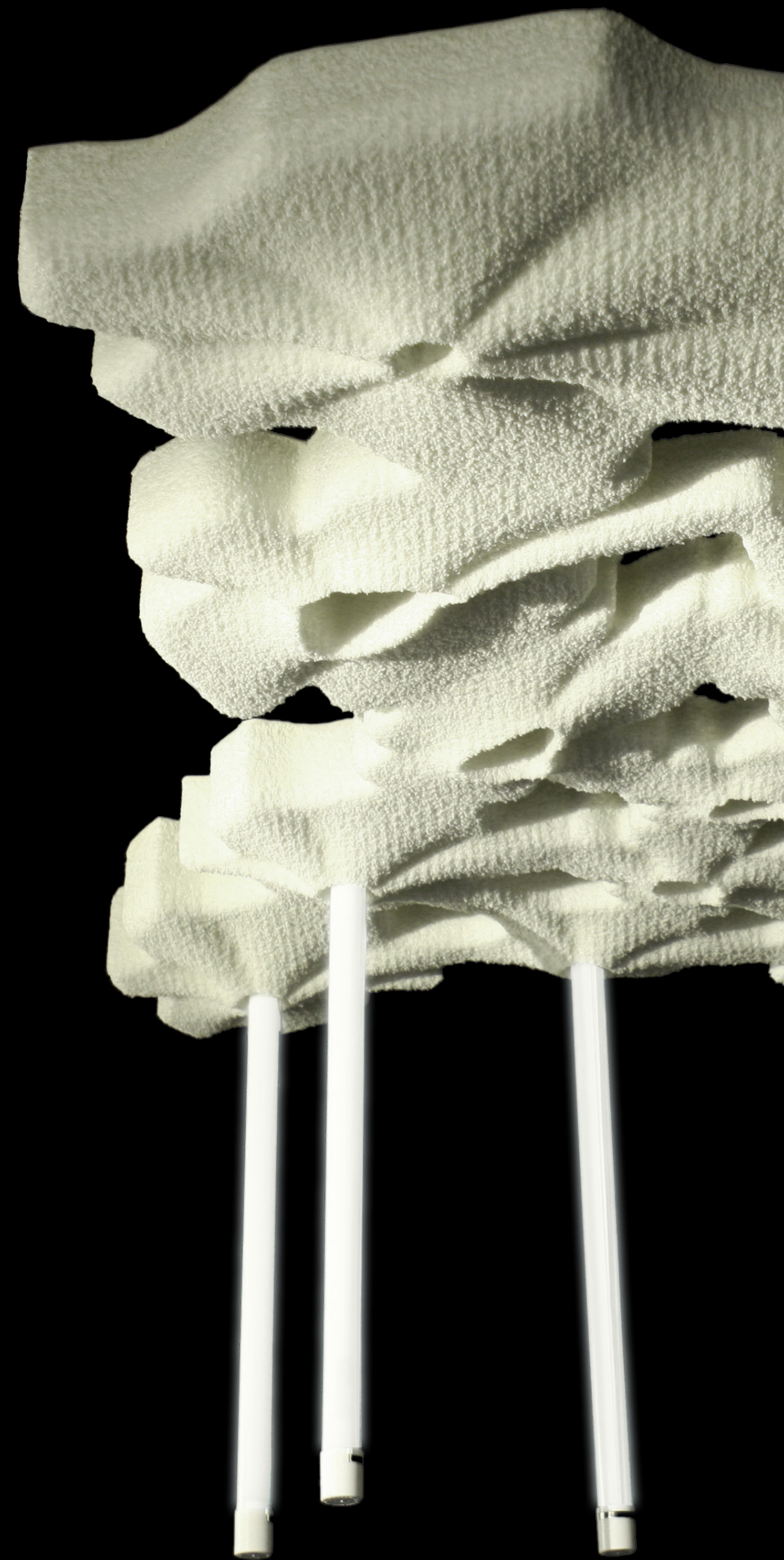
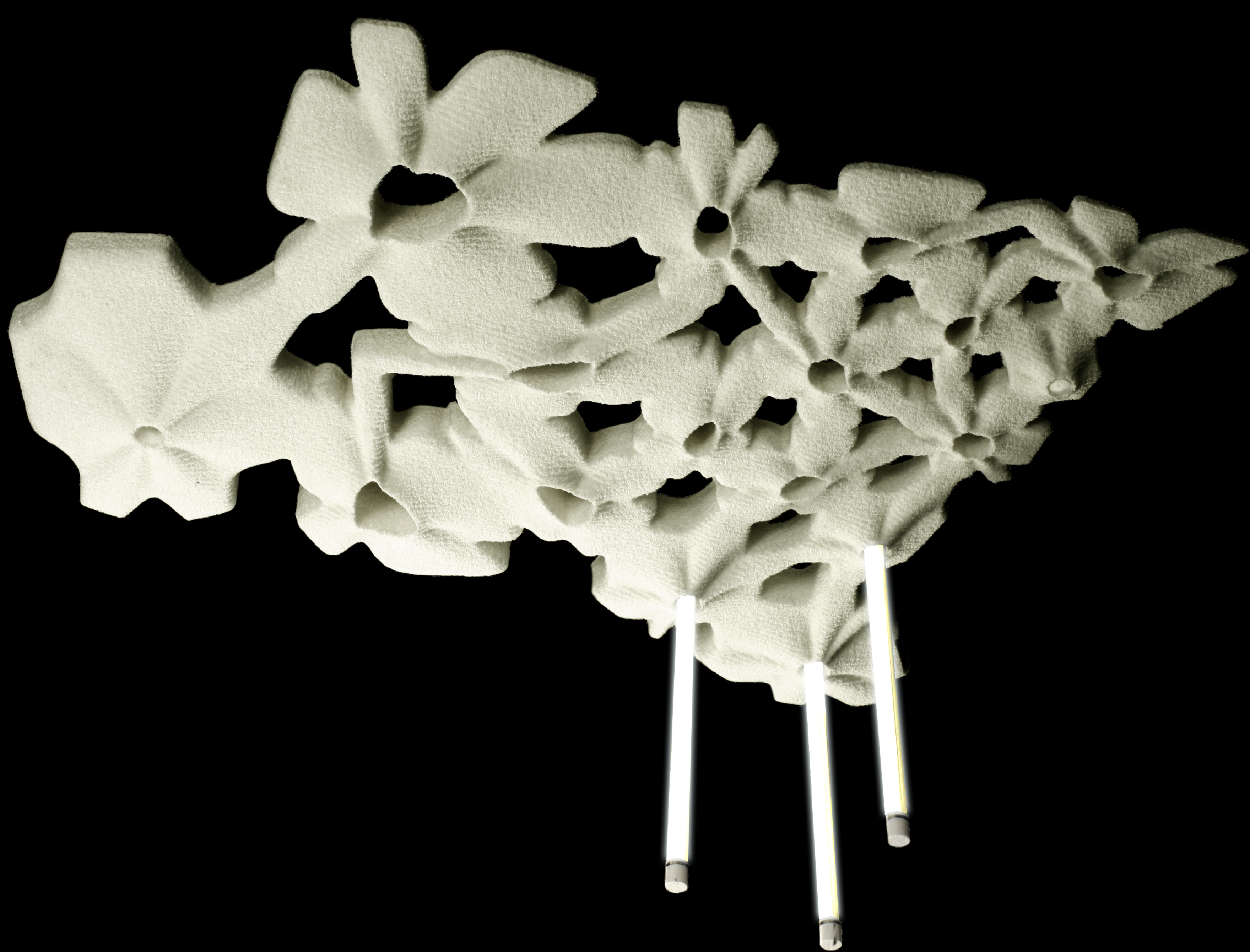




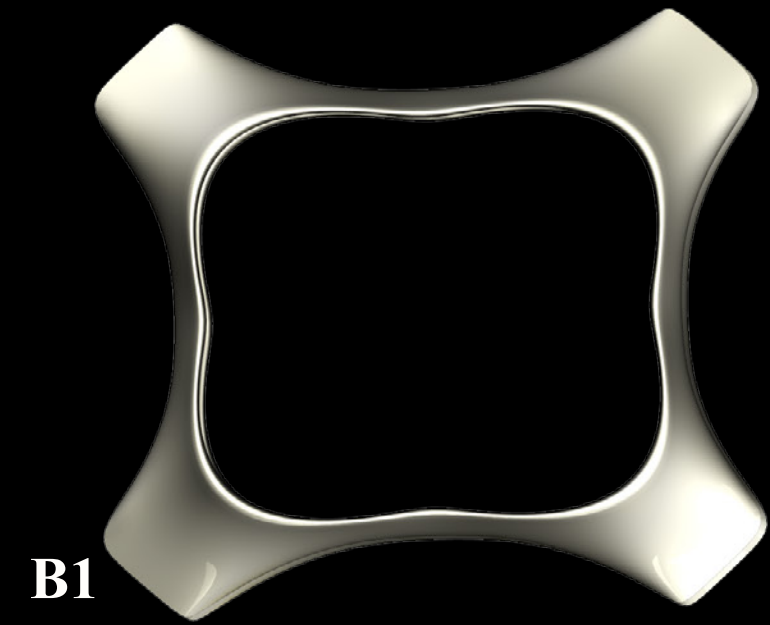
Partial catalog of panels. All panels in system are unique.



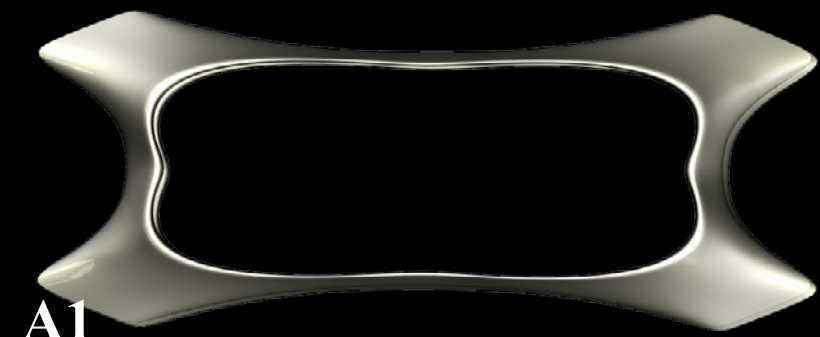
4 Base Cell types - Standard, Speaker, Sprinkler, Light/HVAC



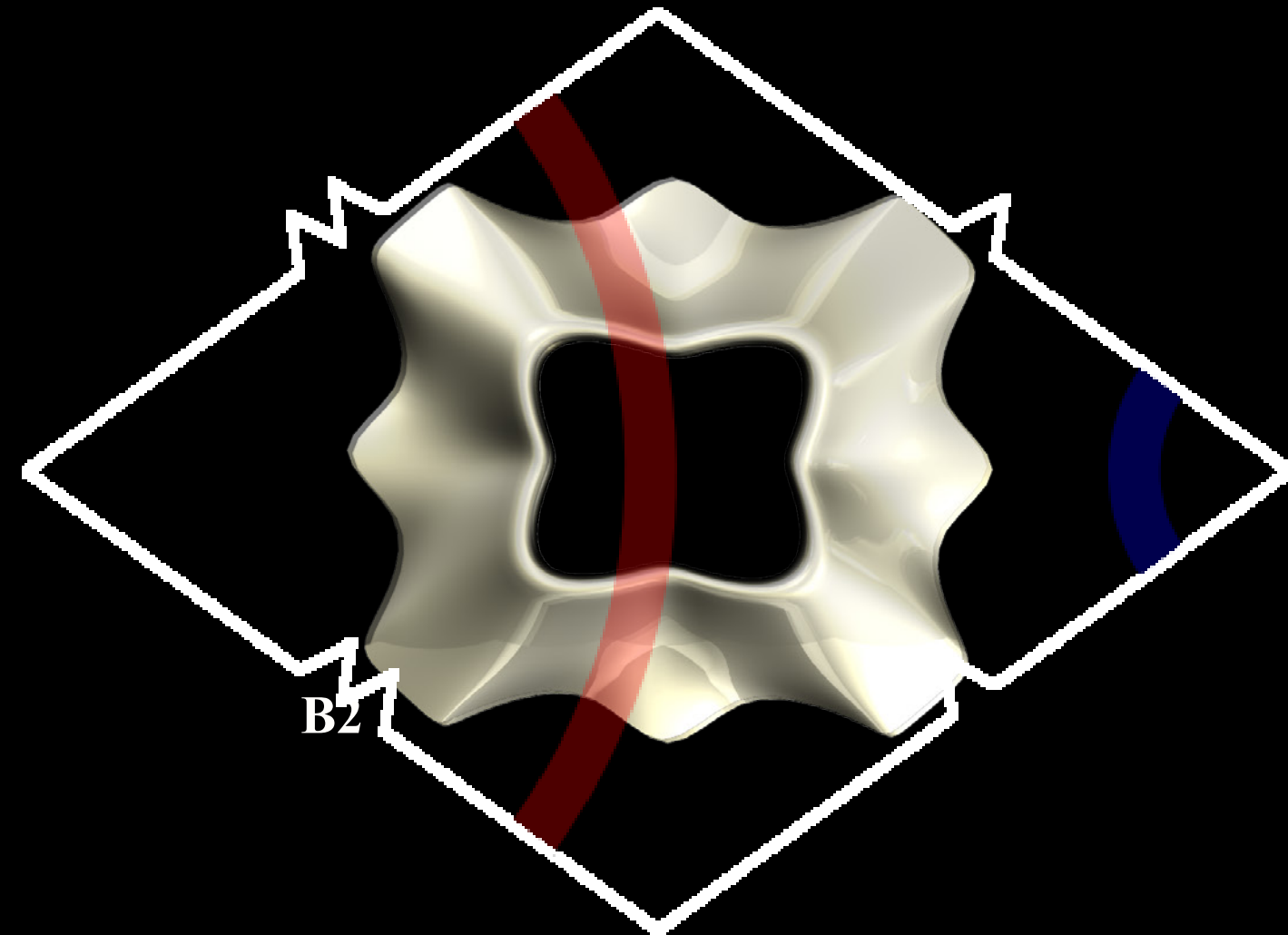
Prototype Panel with Lighting



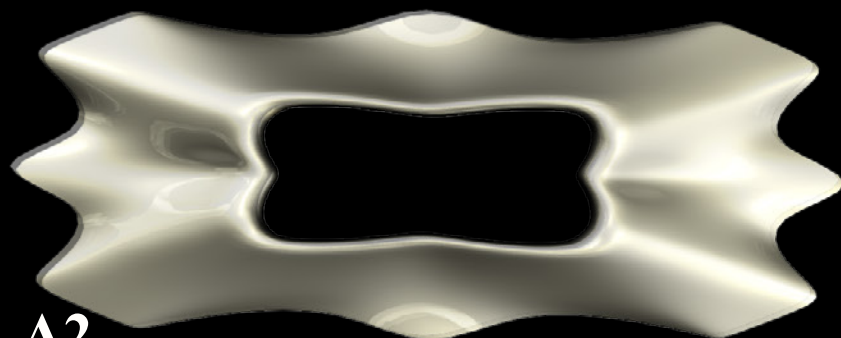
B1



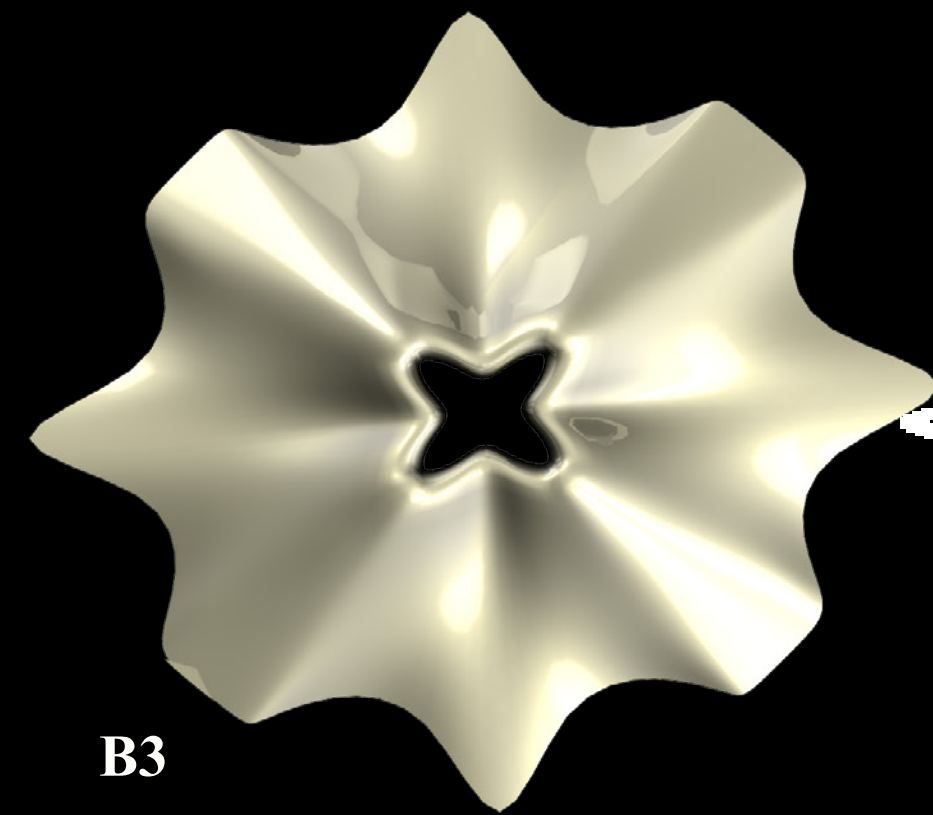
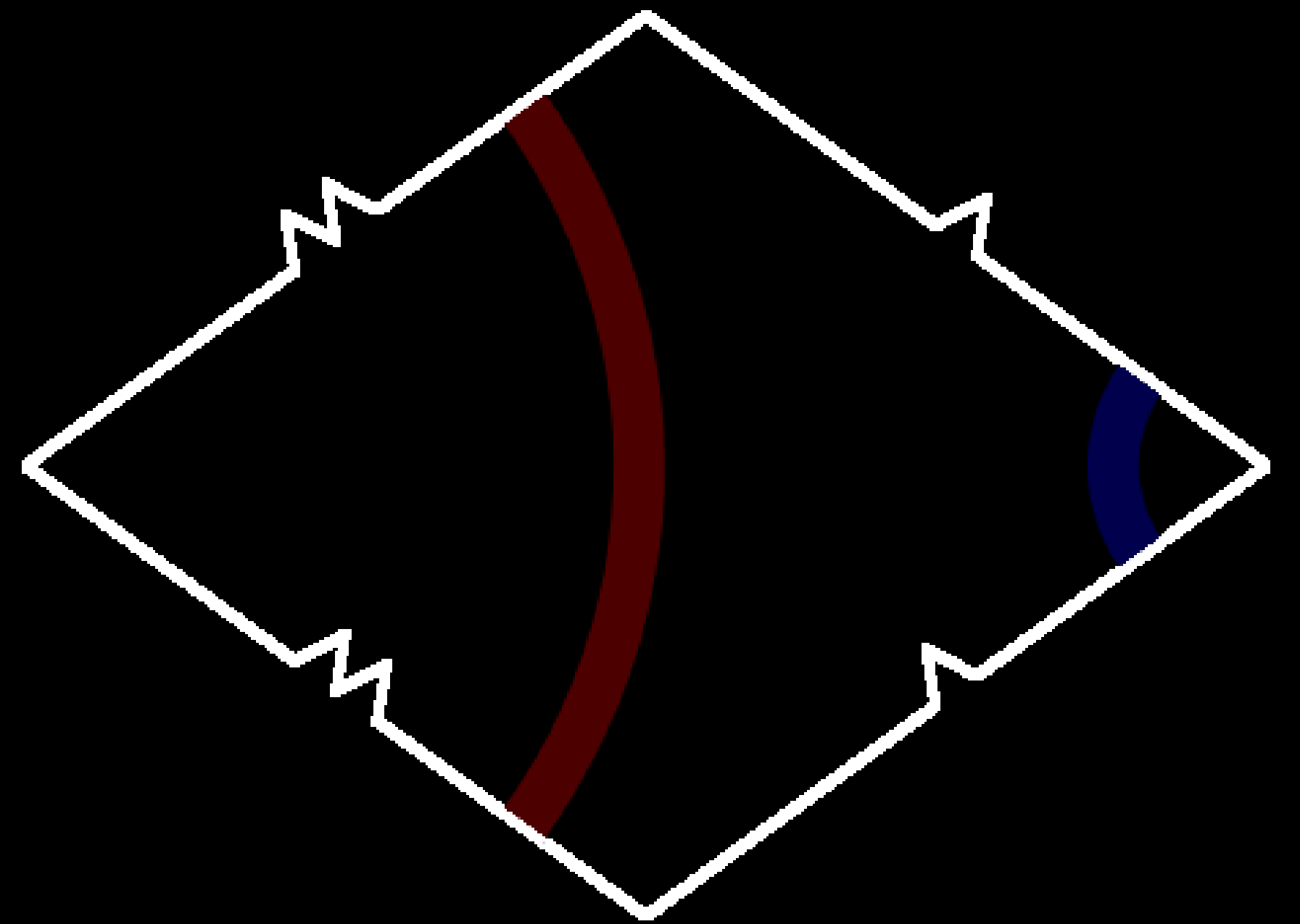
A1



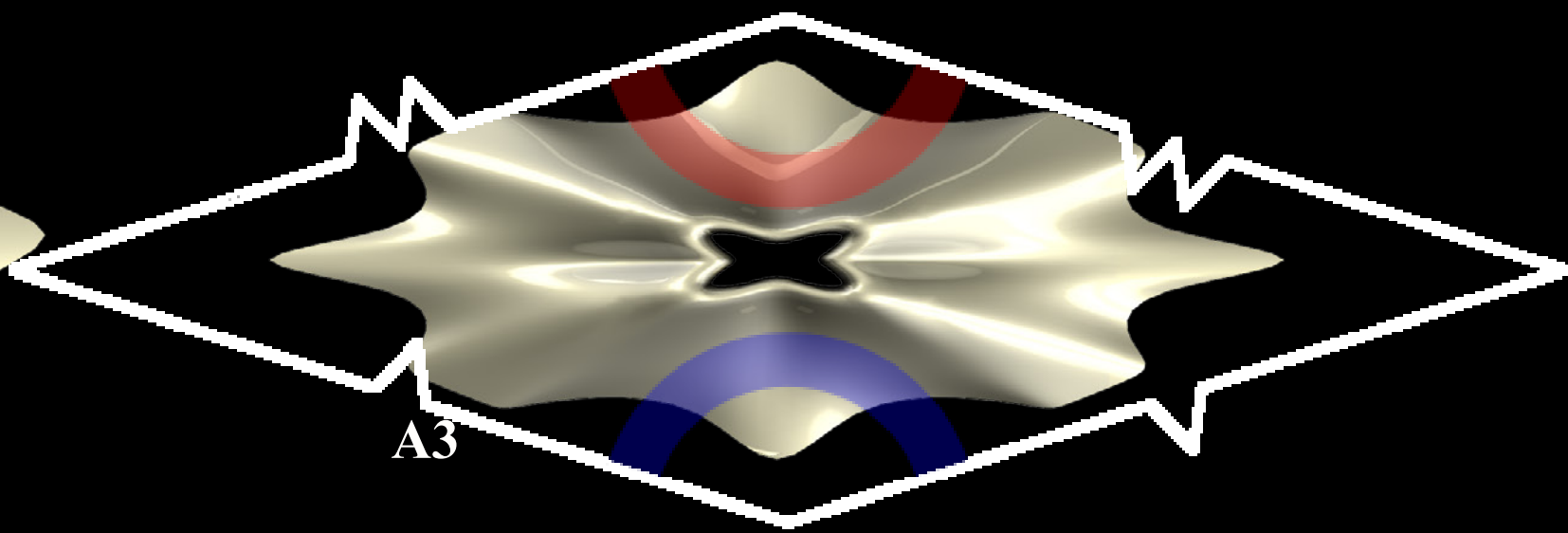
B2



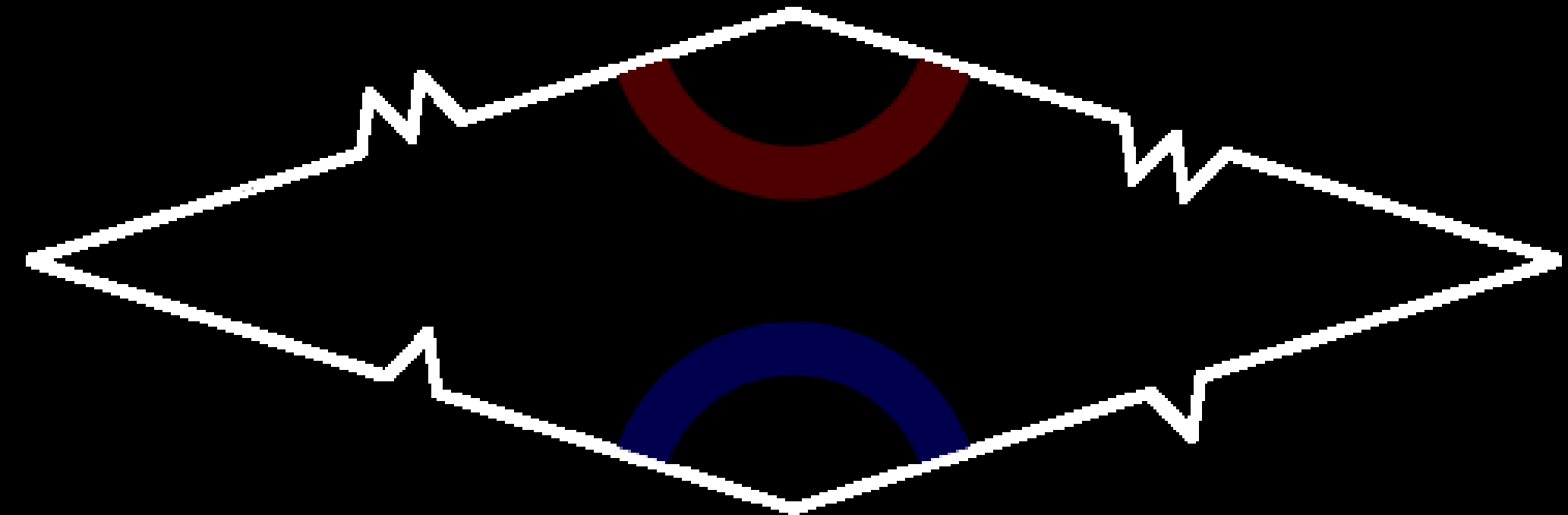
A2



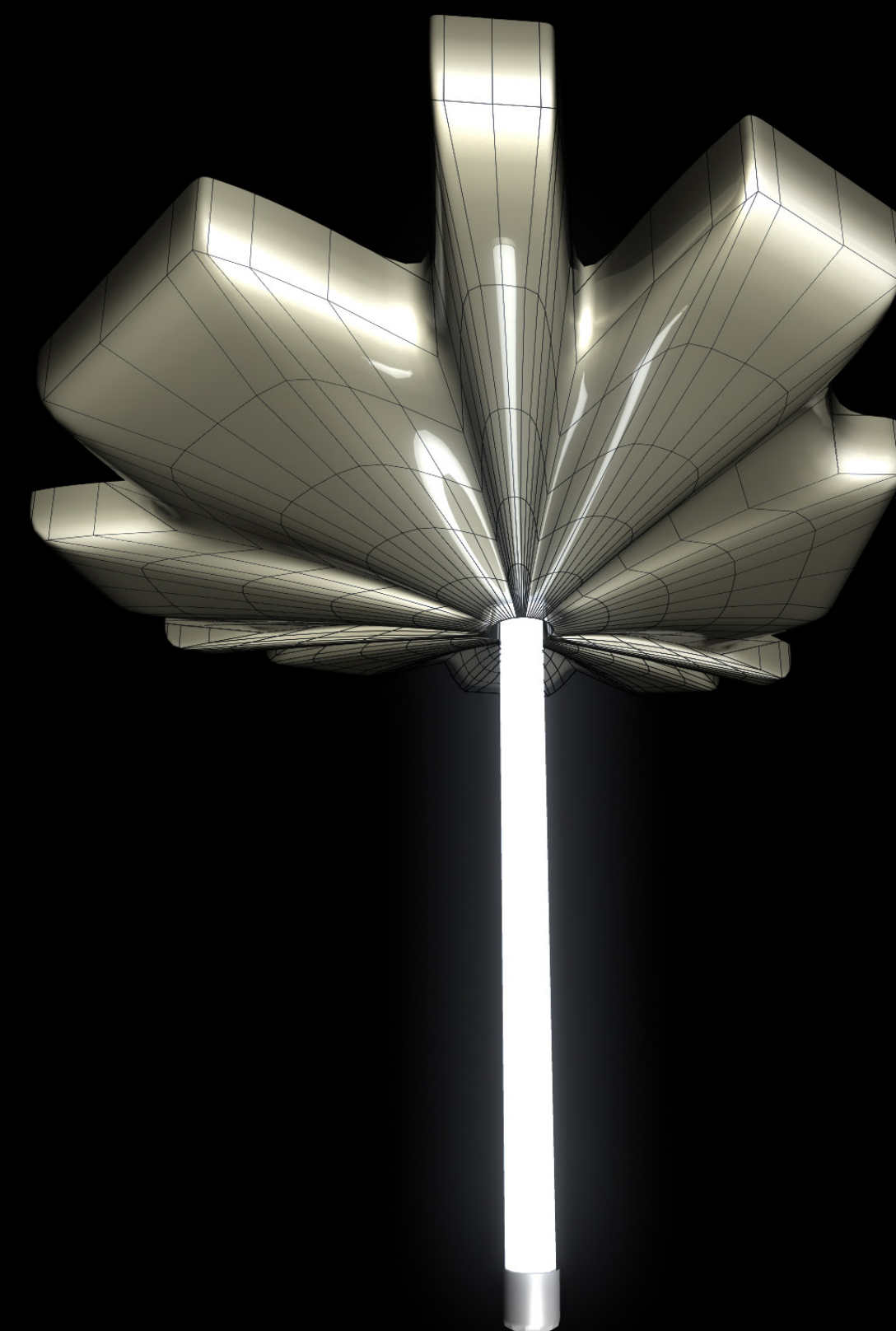
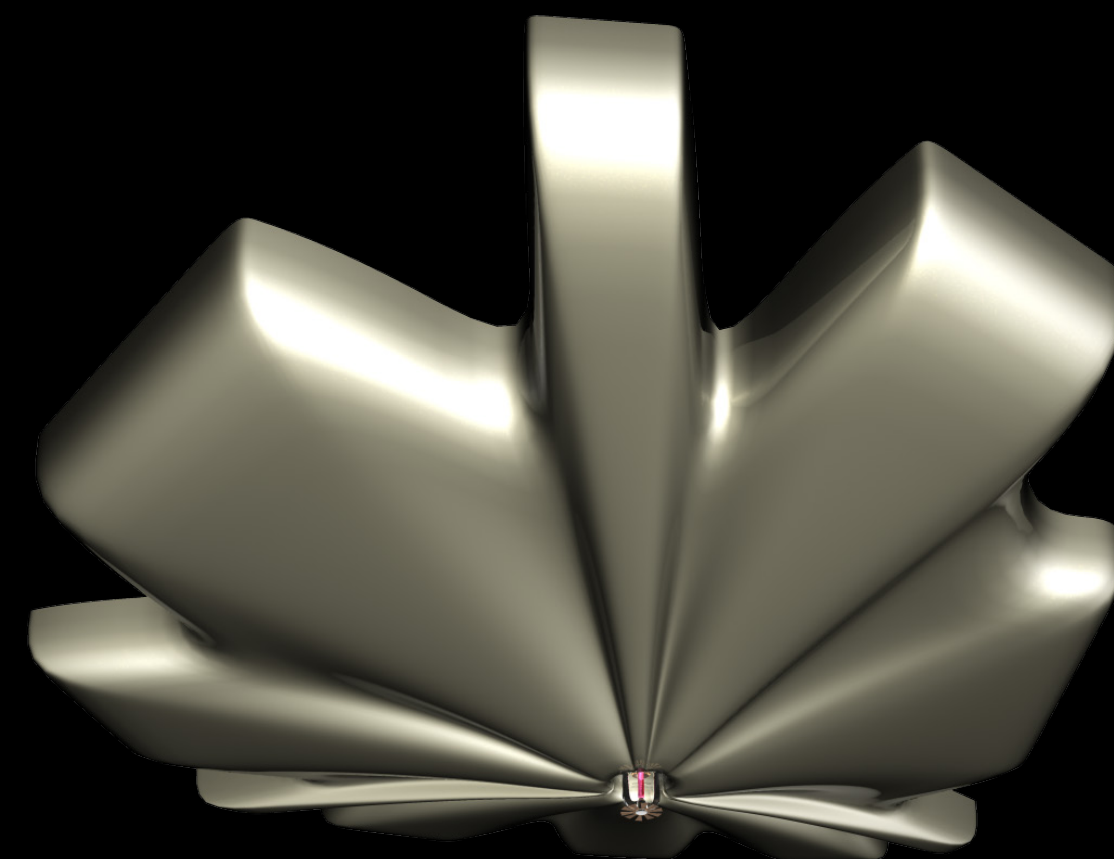
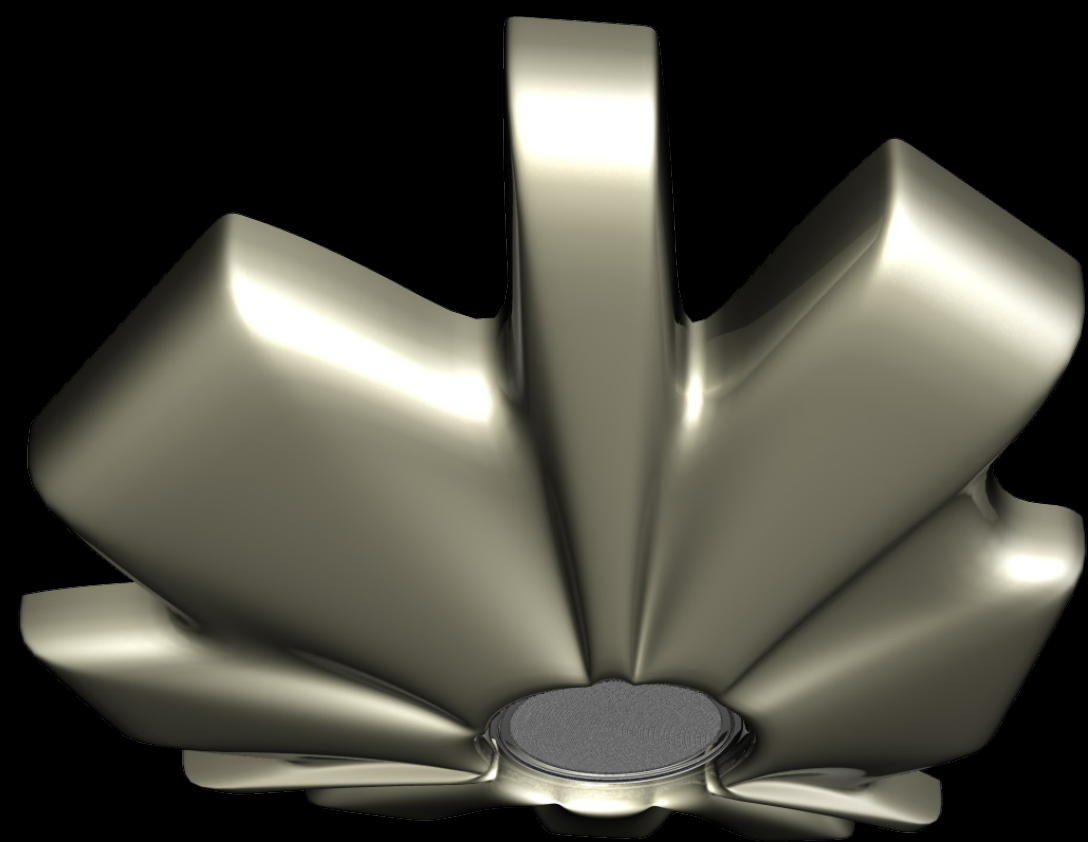
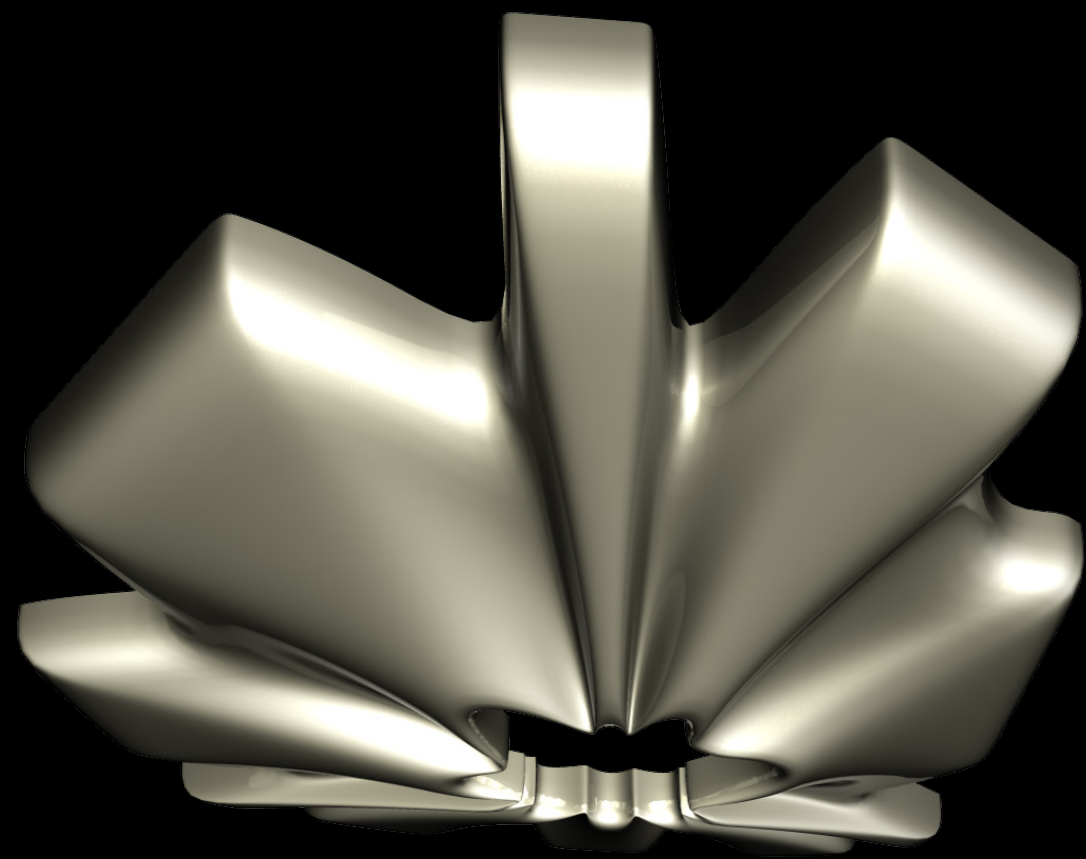
B3



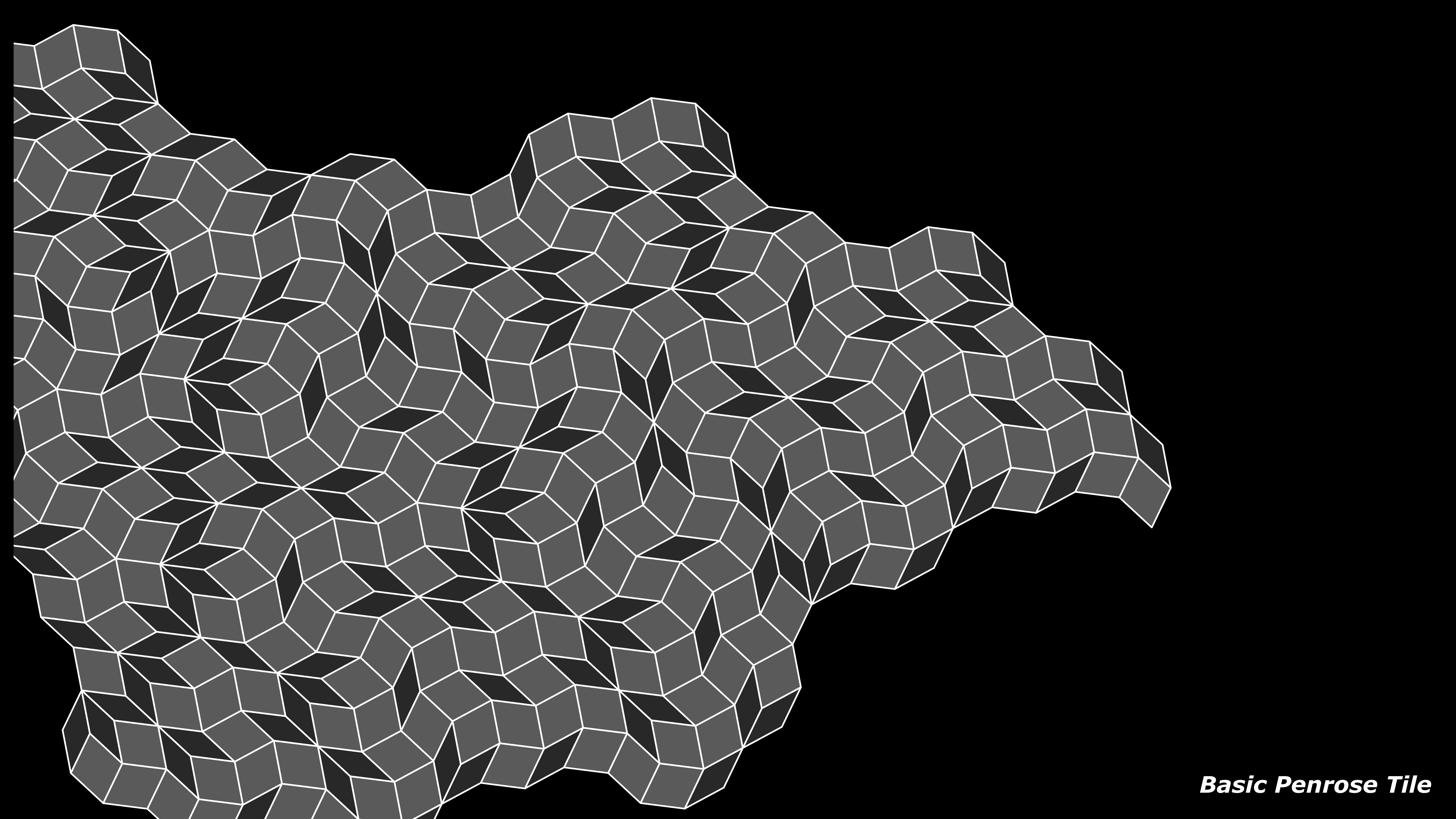
A3



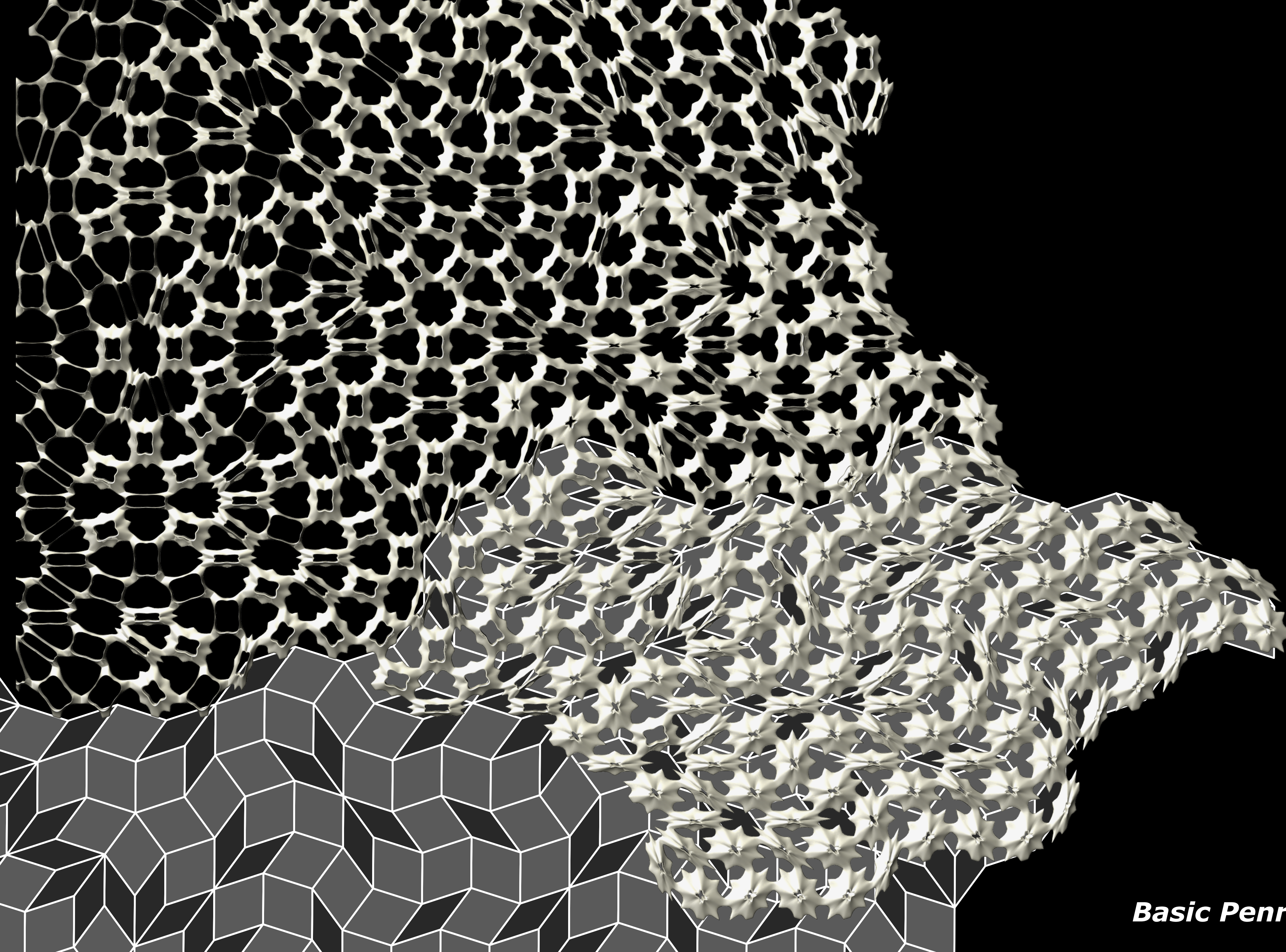
Modular System Based on Penrose Tile



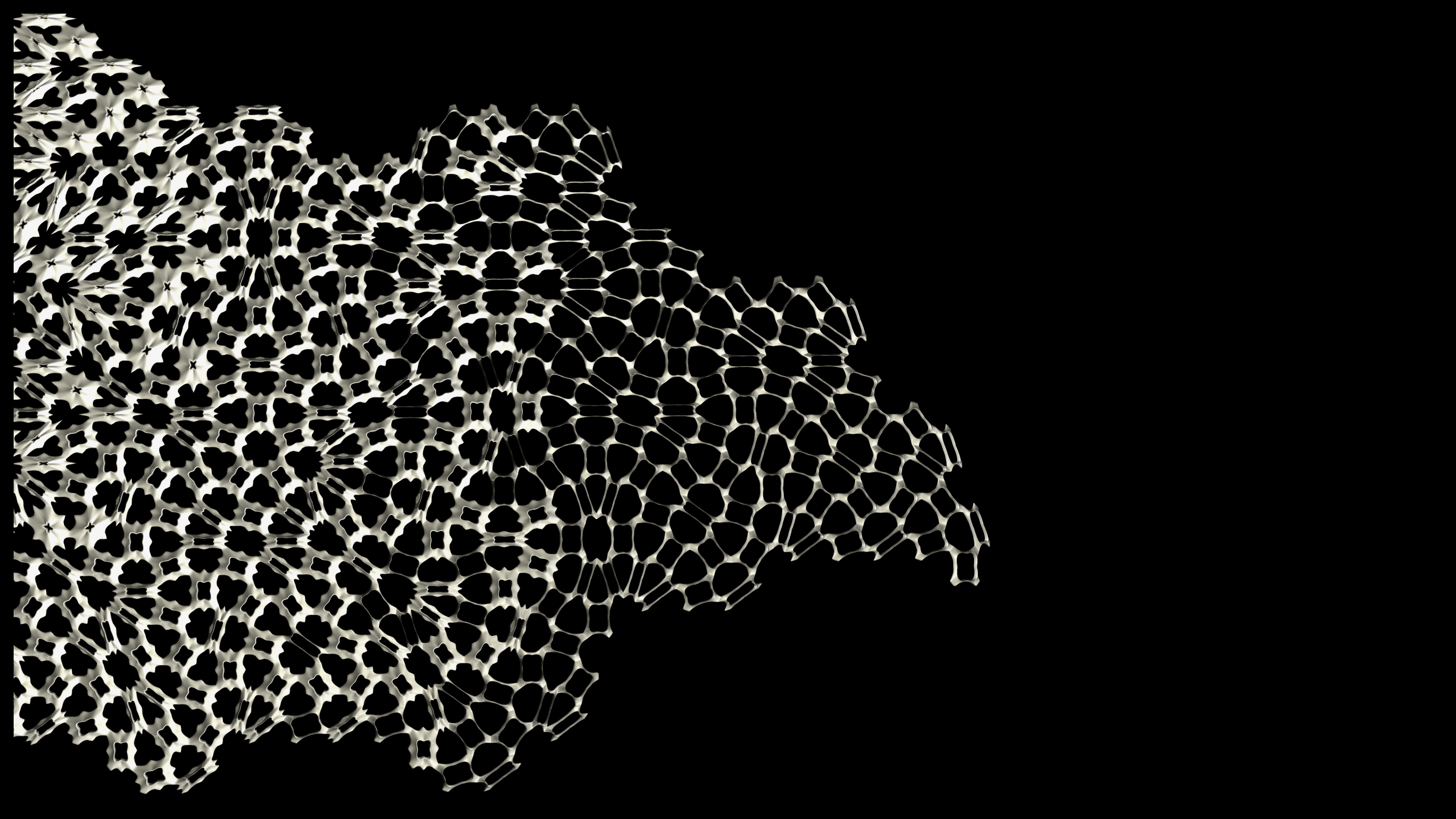
4 Base types with 2 variation each
Only 8 unique panels

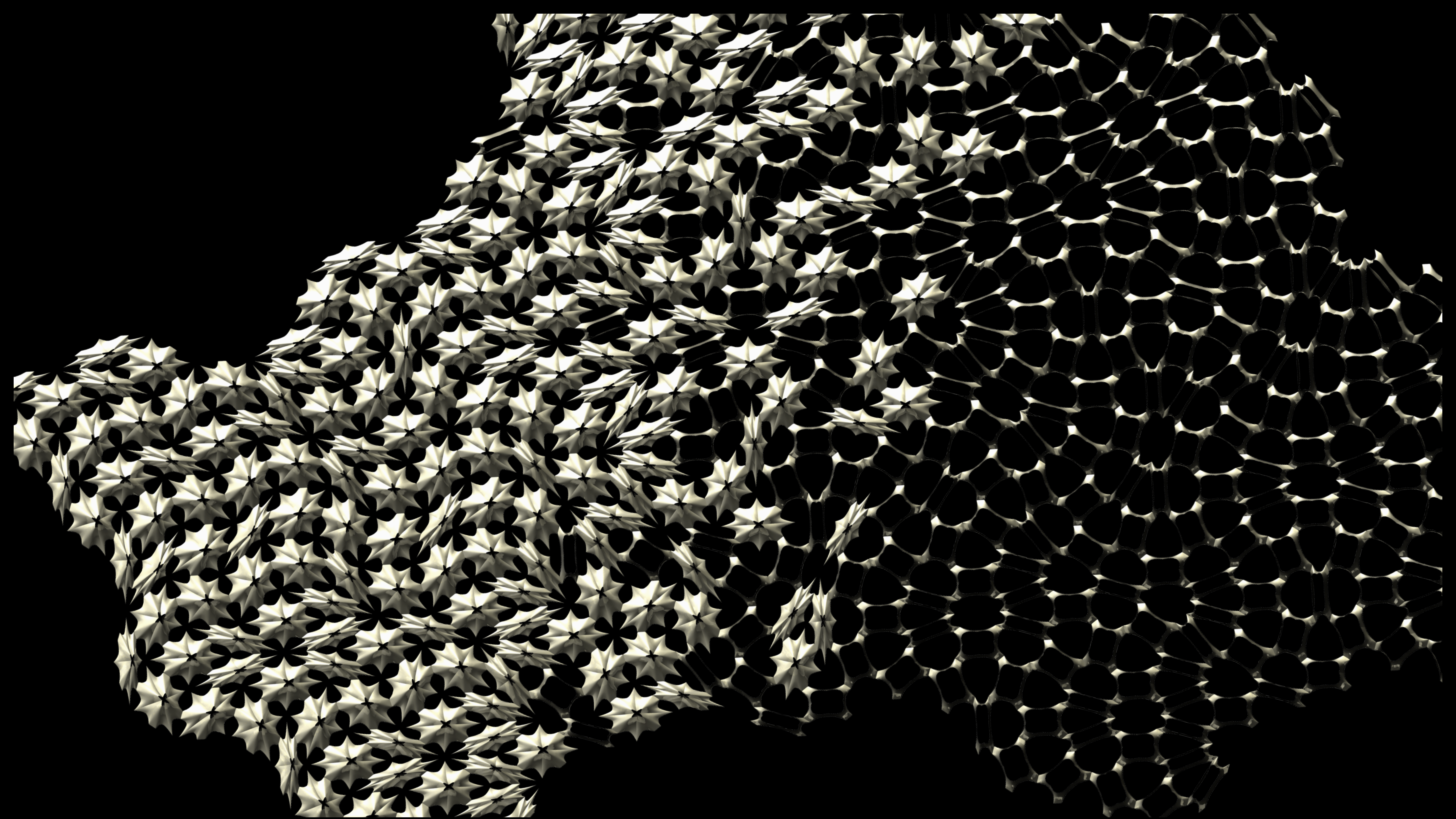


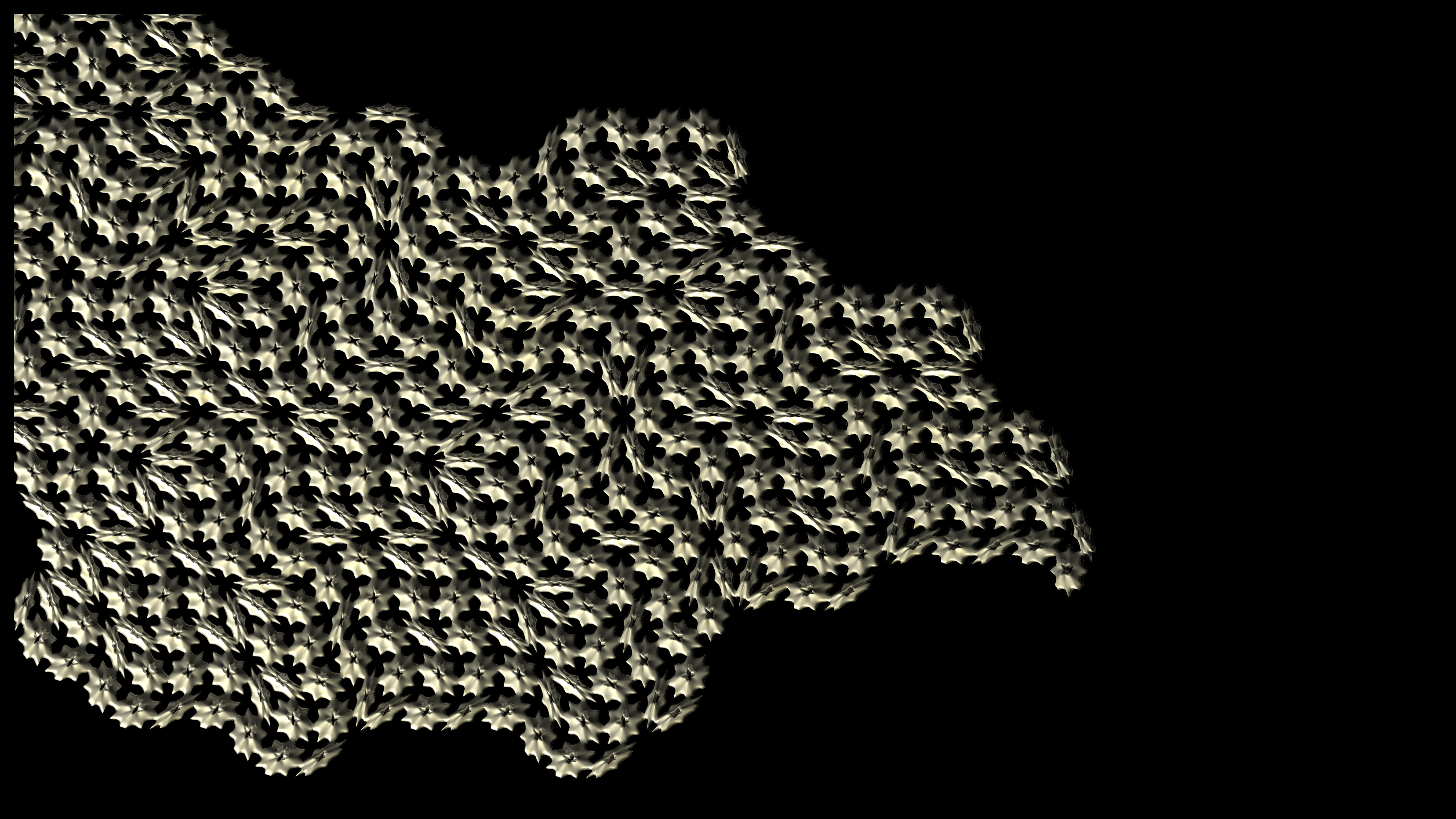
Basic Penrose Tile

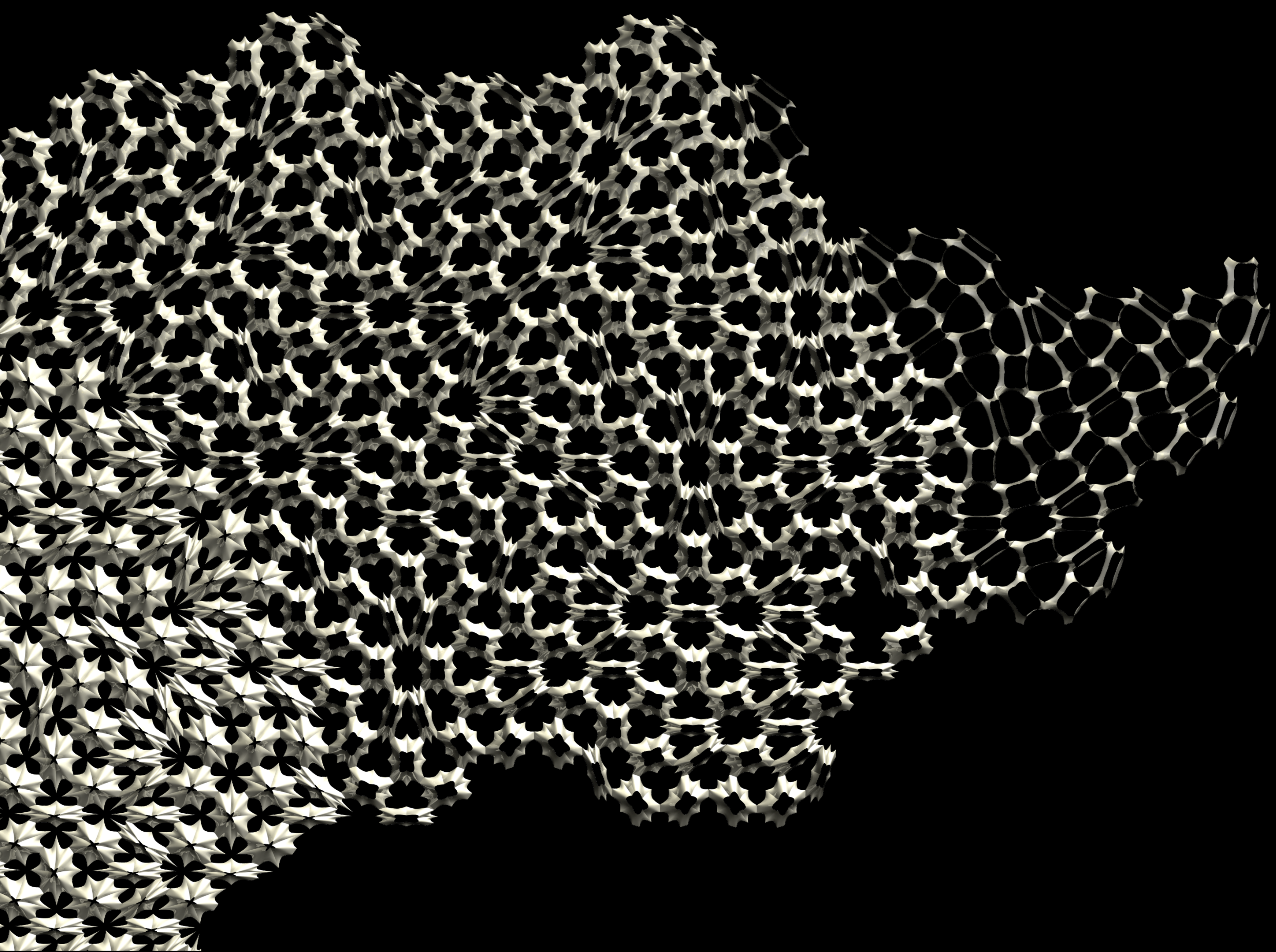


Basic Penrose Tile with Cell Overlay



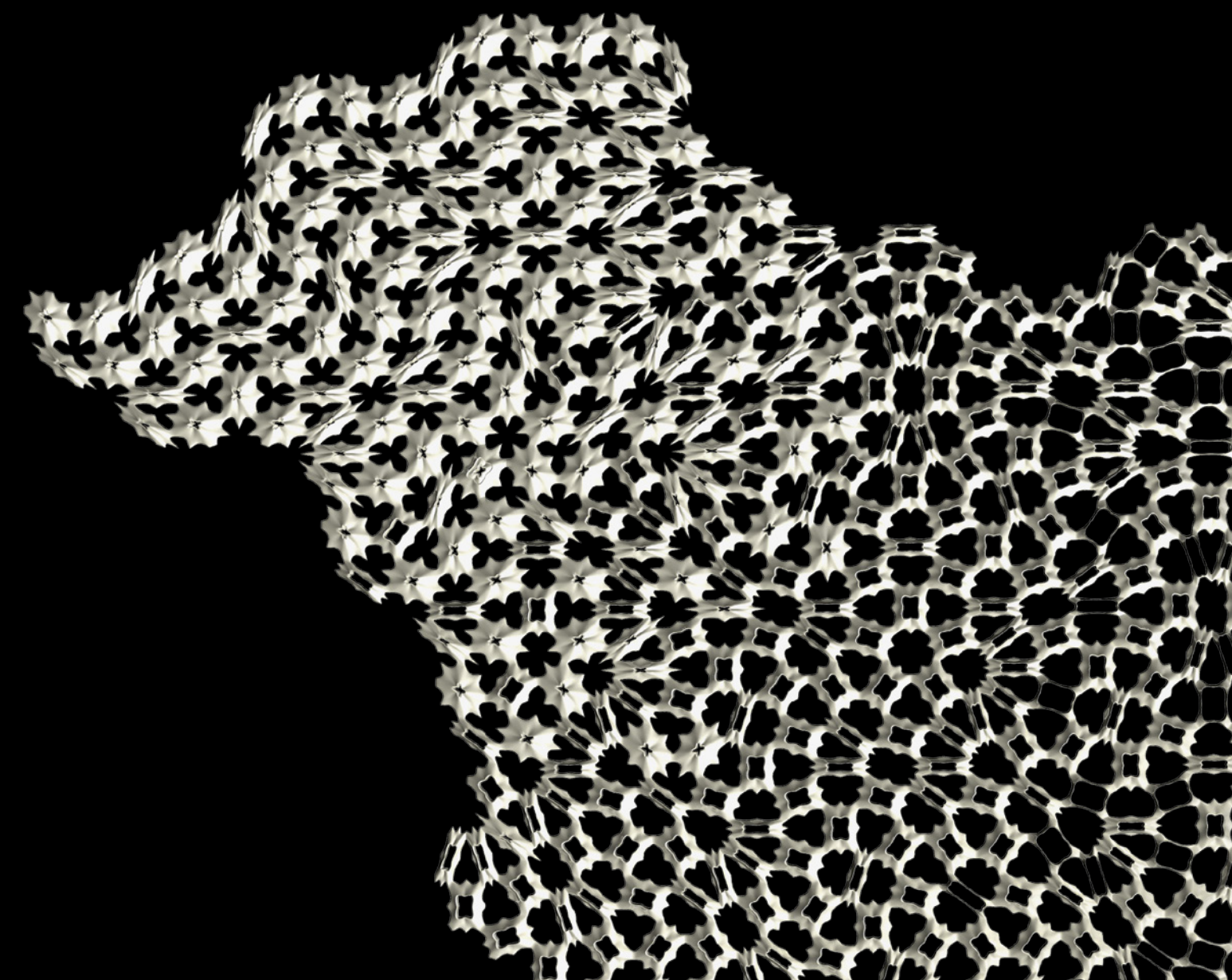
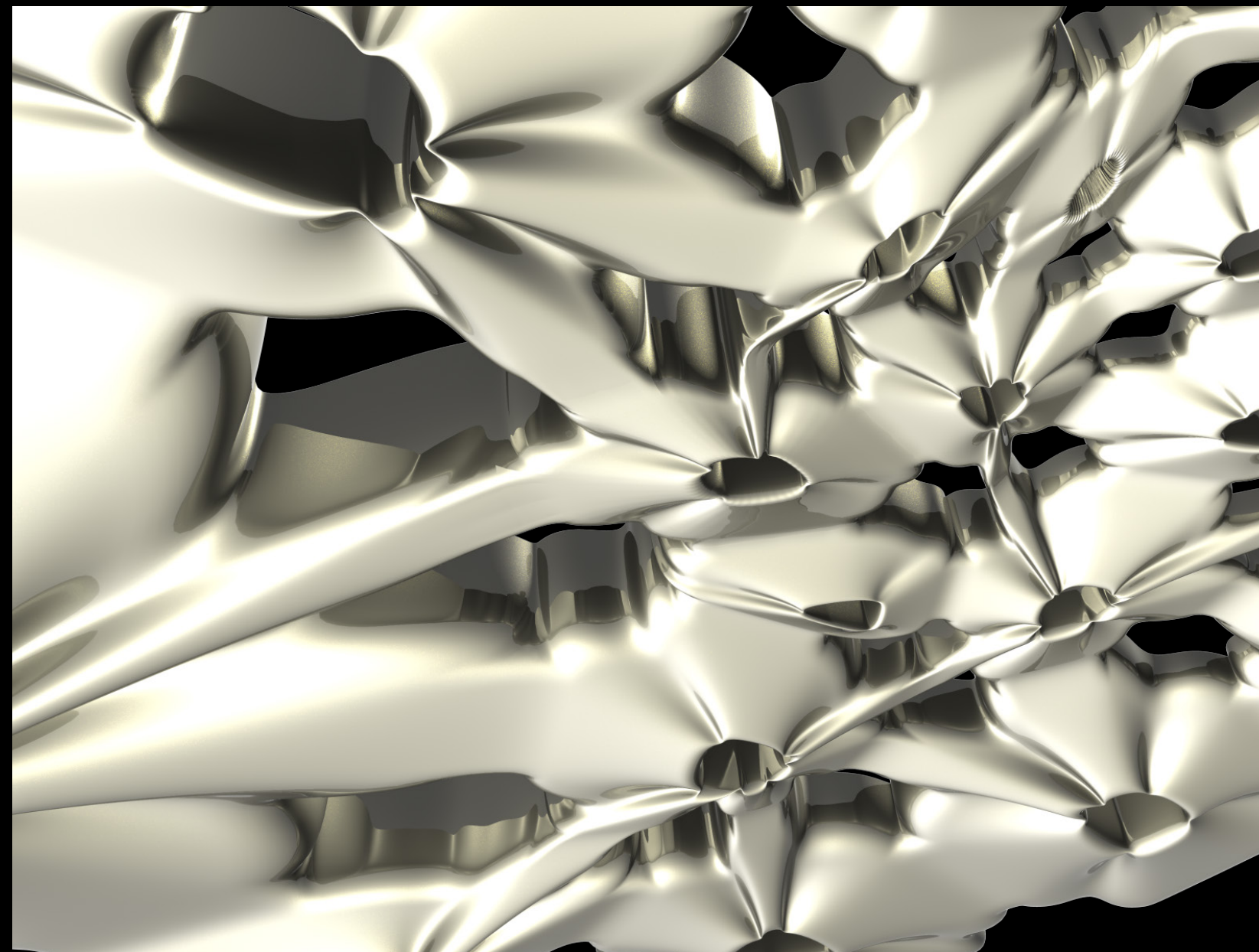
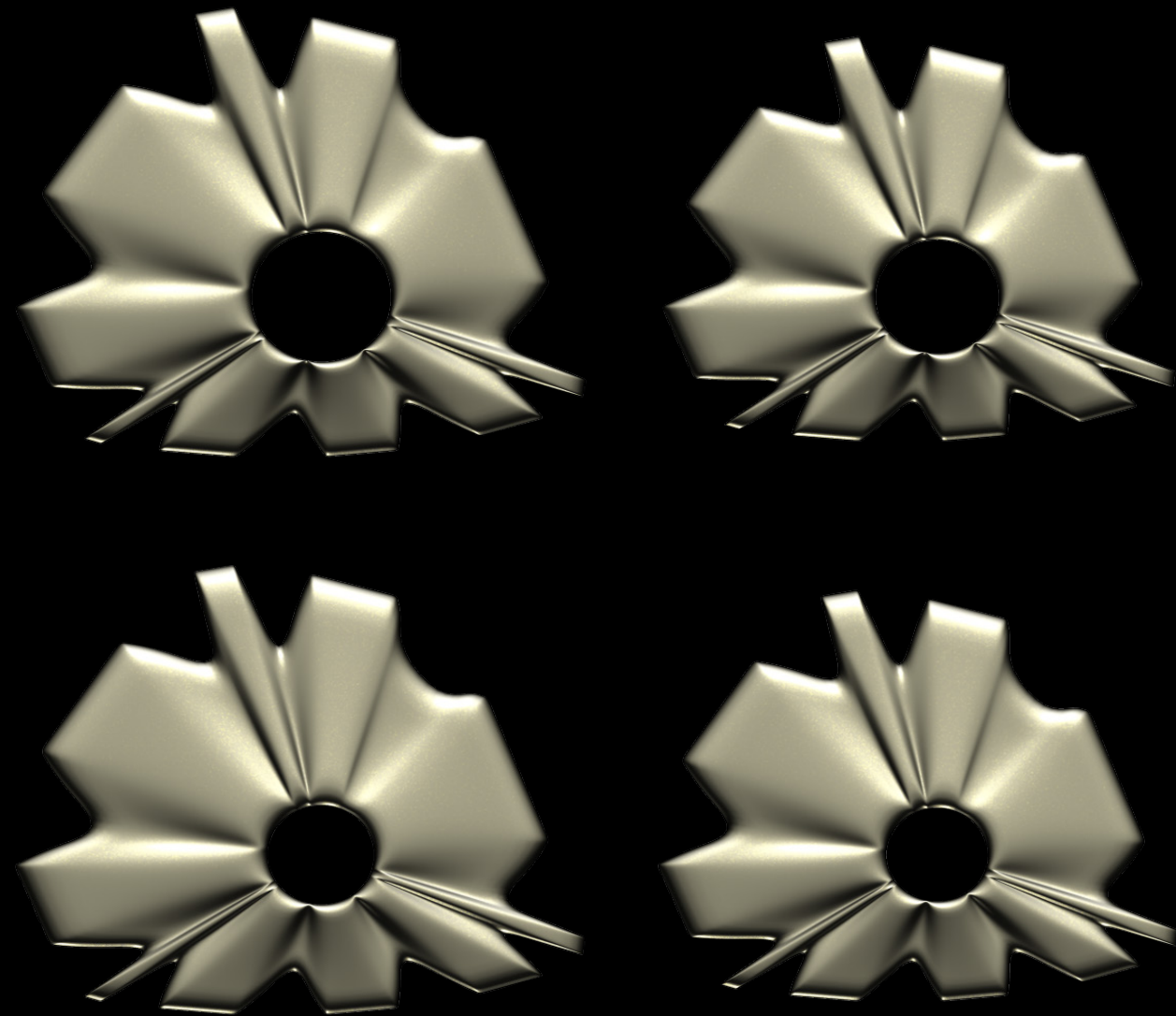






Thank You

PARAling



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With Robert Cervellione
www.kolmacllc.com