INTERIOR STRUCTURE:

The interior design was imagined through the vision of the team to compliment Moore's vision and theme for the exhibition.

- A display of all components
- Complementary of art pieces and exhibition
- Consists of mostly reclaimed materials

Design Iterations:

- Use of hexagonal shapes and imagery
- LED lighting to imitate Aurora Borealis imagery

Figure 1: reference image of Auroras

With a design determined, the team initiated implementation by creating multiple layouts physically.

- Multiple hexagon layouts created
- "Invisible" mounting methods to create floating effect

Figure 2: hexagon layout mounted on TAC wall

The final design was assembled fully at TAC with acrylic hexagons and LED lighting to match the artists vision

- Hexagon lighting matching shows to be color accurate
- Draws attention towards Helios

Structure contains all electrical parts sourced and assembled by EECS students to fit theme of art exhibition as determined by Kathryn Cellerini Moore.

Oregon State University

Glint, Glimmer, Glow

A solar-powered art installation

Project Members: Hubert Sobiewski, Carson Donaldson, Camden Warme

The Final Design:

Our mechanical engineering team designed, manufactured, and assembled structures to support 6 solar panels and a battery bank for our clients at The Arts Center in Corvallis. The purpose of this solar energy system is powering the Glint, Glimmer, Glow art exhibition.

The final design is composed mostly from recycled, reclaimed, and donated materials to fully realize artist Kathryn Cellerini Moore's vision for a sustainably generated audiovisual experience. Our goal was to create something capable of piquing people's interest and encouraging gallery visitors to examine the system as well as the art it is powering.

Figure 3: The final product as it currently sits outside The Arts Center

OUR SPONSORS:

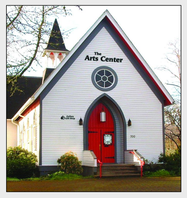
Kathryn Cellerini Moore:

- Kathryn Cellerini Moore is a multidisciplinary artist and assistant professor at Willamette University in Salem, Oregon.
- Moore's creative vision and seasoned craftsmanship were necessary conditions for the inception and realization of the exhibit.

Jennie Castle:

- Jennie Castle is a curator and public programs manager at the Arts Center in Corvallis
- Castle guided and facilitated the collaborative effort of a diverse team of artists and engineers working to make the exhibit possible.

Source: The Arts Center
Website: www.theartscenter.net



TAC The Arts Center

Figure 4: The Arts Center

QUALITIES:

- A strong, segmented central member
- A wooden/steel frame that holds six solar panels
- A pinned connection where the frame meets the center member
- Eight steel diagonals for additional support
- Frontal "legs" consisting of wooden rounds and fabricated supports
- Hexagonal wooden lattice to support sandbags as a ballast against wind

EECS PARTNERSHIP:

Two OSU electrical engineers, Gabriel Naomi and Alexander O'Sullivan, worked over the course of the 2023/2024 academic year making component specifications and configuring Helios, the battery bank system, to hold the charge from the solar array

Figure 5: Helios

SOLAR PANEL STRUCTURE:

THE DESIGN PROCESS

The final design has been forged through many iterations of a long and successful design process.

Winter Term:

- The microscope aesthetic was established through concept generation and down select
- Prototype #1 was built out of cardboard, wooden dowling, and coat hangers
- Design iterations and machining practices began
- A CAD model of the final design was completed

Figure 6: The design process through winter term

Spring Term:

Once a design was in place, the team began sourcing materials, making purchases, and manufacturing the final product.

The first section built was the upper frame:

Figure 7: The building process of the upper frame.

From there the base was fabricated and the front legs were attached:

Figure 8: The building process of the base.

The final design was then disassembled, transported, and reassembled at The Arts Center

Figure 9: Installation of Oculus