

Designing Our World

A Community Envisioning Girls as Engineers

(DRL #1322306)

Project Overview

Designing Our World (DOW) centers on STEM equity and addresses the need for more youth, especially girls, to pursue engineering and fill vital workforce gaps. DOW integrates tested informal science education (ISE) programs and exhibits with current knowledge of engaging diverse youth through activities embedded in a social context. Led by inquiry teams of diverse community stakeholders and in partnership with several local girl-serving organizations, DOW will leverage existing exhibits, girls' groups, and social strategies to impact girls' engineering-related interests and identities.

Project Team

Designing Our World is a collaborative project, with team members from the following institutions:

- **Oregon Museum of Science and Industry** | Portland, OR
Jamie Hurd, PI
Scott Pattison, Co-PI
Veronika Nunez, Co-PI
- **Oregon State University** | Corvallis, Oregon
Lynn Dierking, Co-PI
- **Garibay Group** | Chicago, Illinois
Cecilia Garibay, Evaluator



Community Partnerships

OMSI has developed partnerships with diverse local girl-serving organizations including universities, national agencies and the private sector.



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Exhibit

- A re-envisioned *Engineer It!* exhibition will serve as a hub to engage diverse audiences in engineering.
- Redesign will focus on the “big idea” that “engineering is altruistic, personally relevant, and social.”
- Bilingual copy, images, and/or video will profile engineers and present compelling human needs related to their work



Family & Adult Community Engagement

- The DOW project includes a professional development component aimed at adults with an influence on girls' STEM identity (e.g., parents, community leaders, educators, STEM professionals).
- A Community Action Group (CAG), comprised of representative adult stakeholders, will guide and support this work.
- Family-based events will be central to the work.

Primary Audience

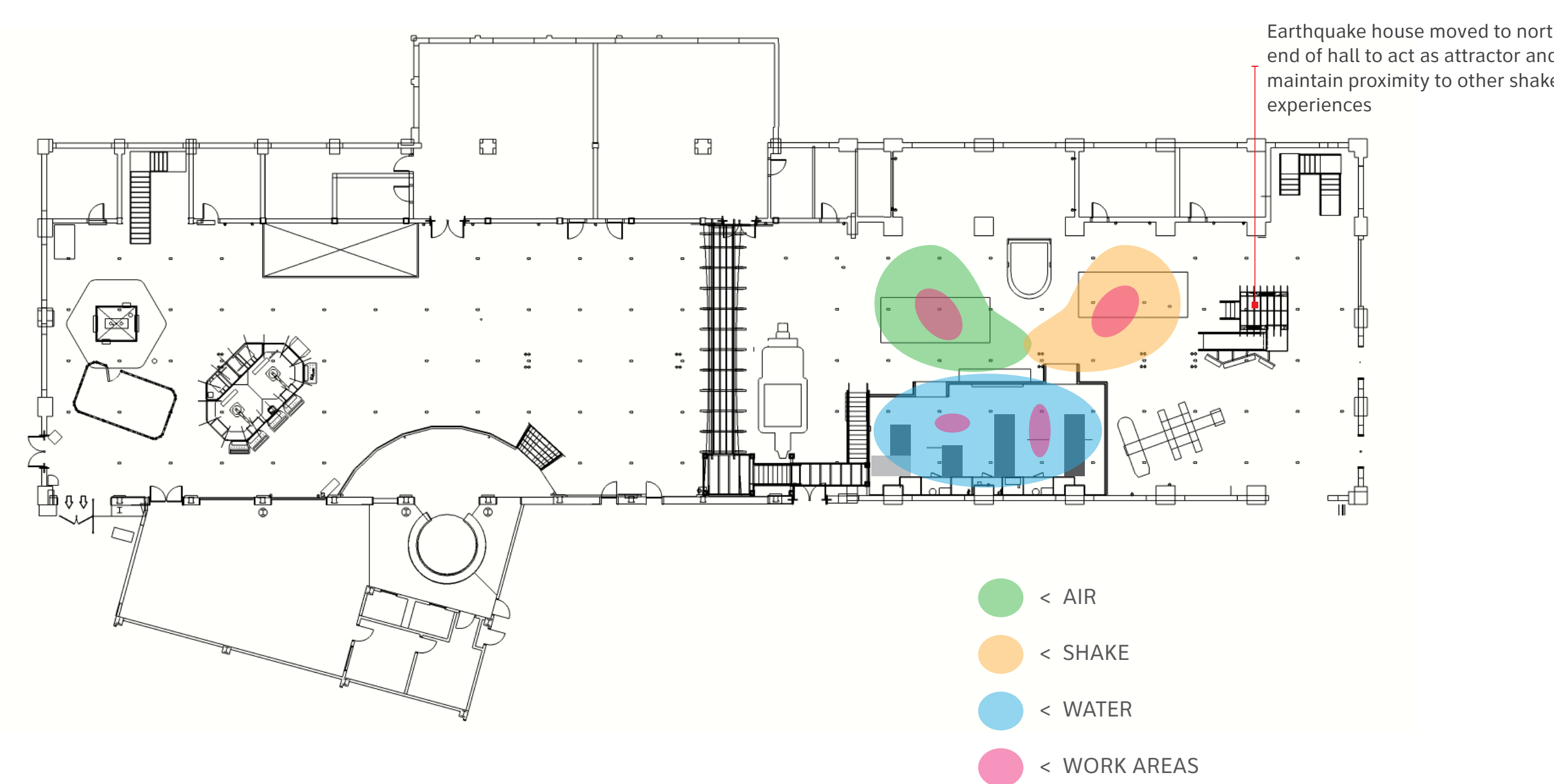
- **Underserved Public Audience:** girls ages 9–14
- **Professional Audience:** a broad group of girls' identity stakeholders including ISE and formal educators; leaders of girl-serving groups, social/peer groups, and community groups; engineering industry leaders; media representatives; parents, caregivers, and other mentors.
- **General Public Audience:** families with children



Anticipated Project Challenges

- Complexity of the community partnerships
- Large and interdisciplinary nature of the project—new process, etc.

DESIGNING OUR WORLD > [EXHIBIT GROUP] > Zoning Diagram



Creative Solutions Programming

- Engineering activities will be developed for community partner sites.
- Facilitated engineering activities at the museum will complement the exhibit.
- Activities will align with the exhibit “Big Idea.”
- Partner organizations will use programming within their regular structure and follow-up with museum experiences.

Identity Research

- Two qualitative studies will investigate how girls construct and negotiate engineering-related identities across contexts and over time.
- Findings will inform ongoing refinement of programming and, more broadly, advance the ISE field's understanding of how girls develop engineering-related identities.



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