

# RACHEL HELLENGA

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## PROFESSIONAL PROFILE

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Twenty-year career leading high-performing teams to design world-class visitor experiences which evoke wonder, spark curiosity, inspire investigation, and bring people together in memorable settings.

## KEY SKILLS

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Directing Creative Teams	Project Management	CAD Software	Permanent Exhibits
Exhibit Planning/Design	Design Reviews	Exhibit Production	Temporary Exhibits
Technology/Interaction Design	Bids/Contracts	Grant-Writing	Exhibit Evaluation
Collections/Conservation	Budgets/Schedules	Donor Relations	Inclusive Design

## EXPERIENCE

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**HELLENGA PROJECTS** – Elmhurst, IL January 2012 to present

### Entrepreneur/Inventor – (2017 to present)

Invented a system of flexible circuits and paper-thin LEDs which snap under LEGO bricks. Procured three patents. Developed patent-pending technology for integrating programmable LED matrices featuring animations and simulations into LED displays. Currently pursuing second round of patents. Established e-commerce site at [electricmosaic.com](http://electricmosaic.com). Designed, built, and presented displays featuring flexible circuits, proprietary LEDs, microcontrollers, LED matrices, and sensors at a variety of conferences and conventions.

**LEGO Conventions:** Brickworld, Brick Fair, Bricks Cascade, Brick Fest, Brick Convention, Comicon/Bricks Erie.

**Professional Conferences:** Association of Science-Technology Centers; American Association of Museums, Tufts LEGO Education Symposium; People of Play Inventors Conference; Chicago Toy and Game Fair

### Exhibition Director/Consultant – (2012 to 2016)

Led exhibit teams comprised of client staff and external vendors; wrote grants to support exhibit initiatives; summarized best practices in exhibition design for museum publications. Selected projects:

#### **GREAT LAKES SCIENCE CENTER** – Cleveland, OH

Led design reviews, production, and evaluation of *Mission to STEM*, a tablet-based app which used augmented and virtual reality to deepen visitor engagement with artifacts in the exhibition. Wrote experience description for successful \$1 million NASA grant which served as the blueprint for the project.

#### **THE WORKS** – Bloomington, MN

Supervised client's staff in producing *Sensor Zone*, with an Arduino-controlled maze, interactive smart home, and other exhibit experiences. Contributed to museum's strategic plan by researching key trends in STEM, museum visitor demographics, diversity, and inclusion.

#### **THE DISCOVERY MUSEUM** – Acton, MA

Wrote four successful IMLS grants totaling \$500K to support exhibition projects. Developed comprehensive summary of inclusive design strategies to guide design of new facility and exhibits.

#### **CENTER FOR THE ADVANCEMENT OF INFORMAL SCIENCE EDUCATION** – Washington, D.C.

Served as writer, editor, and producer for *The Principal Investigator's Guide: Managing Evaluation in Informal STEM Education*. Gathered and presented best practices in the form of an interactive online guide.

**ILLINOIS HOLOCAUST MUSEUM & EDUCATION CENTER** – Skokie, IL June 2010 to December 2011

**Director of Program Services**

Reported to the President and CEO. Oversaw Exhibition/Collections, Education, and Marketing departments. Produced the *Harvey L. Miller Family Make a Difference!* anti-bullying exhibition and companion outreach programs with a team of in-house staff and external design and fabrication vendors. Implemented the museum's first branding campaign using billboards, bus placards, and print and online media. Supervised 15 full-time and part-time staff. Served as liaison to Exhibit and Programs Committee of the Board.

**MUSEUM OF SCIENCE AND INDUSTRY** – Chicago, IL August 2006 to June 2010

**Project Director** (2007 to 2010)

Reported to VP, Collections & Exhibitions. Directed creative efforts of 7 staff and 25+ vendors to renovate the west wing and introduce *Science Storms*, a 26,000 sq. ft. permanent exhibition on physics and chemistry featuring a three-story tornado, live fire, 30-foot rainbow, 200 artifacts, and 50 interactive stations. Delivered a world-class visitor experience which received the industry's top design awards: AAM award for Overall Excellence in Exhibitions (2011); ASTC Roy Shafer Leading Edge Award for Visitor Experience (2011); and Themed Entertainment Association's Thea Award for Outstanding Achievement (2010). It was named one of the *20 Most Influential Exhibitions This Century* by the Society for Experiential and Graphic Design (2018).

**Senior Project Manager** (2006 to 2007)

Performed project management through completion of the *Science Storms* schematic design phase. Established the \$30 million projected budget and four-year schedule; produced RFPs and contracts; and secured landmark approval for building modifications. Initiated museum's first podcast series and exhibit blog.

**CHICAGO CHILDREN'S MUSEUM** – Chicago, IL August 2003 to July 2006

**Associate Vice President, Partnership of Playful Learners** – (2004 to 2006)

Led the Partnership of Playful Learners featuring *Skyline*, an exhibition about skyscraper engineering which was recognized by the AAM award for Special Achievement in Cooperative Learning (2010). Applied Reggio teaching principles to exhibition design to prompt collaboration, conversation, and reflection in the exhibition. Developed multimedia stations which captured visitors' building activity, prompted dialogue and reflection, and produced a digital book with audio narration. Designed building materials which doubled the duration of girls' participation to match that of the boys. Experimented with graphic design approaches which increased family collaboration and conversation. Secured funding for the project with a successful \$1.7 million NSF proposal.

**Associate Vice President, Production & New Ventures** – (2003 to 2004)

Supervised firms providing architectural services, exhibit planning, and construction management. Established budget and schedule for the planned \$30 million renovation. Secured landmark approvals from zoning board.

**THE TECH MUSEUM OF INNOVATION** – San Jose, CA June 1995 to June 2003

**Senior Director of Exhibits and Programs** (2002-2003) **Director of Exhibits** – (1999-2002)

Reported to VP of Exhibitions. Supervised a team of 13 staff and managed \$2.3 million annual capital and operating budget. Closed out contracts totaling several million dollars after the new facility opened. Established written requirements for multimedia, graphic design, 3D exhibit design, and fabrication reviews to streamline the design, fabrication, and installation of future projects. Developed a 5-year strategic plan, wrote grants, and made fundraising pitches resulting in over \$4 million in new project funding within 3 years. Introduced interactive butterfly projection replicated by more than 50 venues.

**Exhibit Developer and Project Manager** (1995-1999)

Led the development of \$3.5 million *Communications: Global Connections* gallery for The Tech's new facility opening October 1998. Made successful fundraising presentations to individual and corporate donors.

**CHICAGO CHILDREN'S MUSEUM** – Chicago, IL May 1991 to August 1995

**Exhibit Developer** (1991 to 1995)

Developed the popular *Inventing Lab*, *Waterways*, and *Under Construction* exhibits for CCM's Navy Pier location. All three exhibits broke new ground and were replicated by museums around the country.

## EDUCATION & SKILLS

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**HARVARD UNIVERSITY** – Cambridge, MA (1989)

*Bachelor of Arts in Psychology (John Harvard Scholarship for high academic distinction)*

**REGGIO CHILDREN** – Reggio, Italy (2005)

Attended study tour of education methods pioneered by pre-school educators in Reggio, Italy

**NAPERLAUNCH ACADEMY** – Naperville, IL (2018)

Completed small business incubator program for entrepreneurs

**TOY CREATOR ACADEMY** – New York, NY (2022)

Completed small business incubator program for entrepreneurs

## LANGUAGES

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Italian, French, Spanish

## SELECTED PRESENTATIONS & PUBLICATIONS

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**Tiaras, Tutus, and Technology Education**, Seven-Minute Seminars, Harvard University, 2014

**Hack it! The Maker Movement and Museums**, Chicago Museum Exhibitors Group meeting, 2013

## PATENTS

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**Kit for electrifying an assembly of bricks in a brick building system**, Assignee, Rachel Hellenga

Patent #US20170189828A (2017)

Patent #US9782686B2 (2019)

Patent # US10717018B2 (2020)

## PROFESSIONAL MEMBERSHIPS

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**Museum Associations:** American Association of Museums, Association of Science-Technology Centers

**Makerspaces:** Pumping Station One, Workshop 88

**LEGO Communities:** Brickworld, BrickFair, Steel City LEGO User Group

## DESIGN TOOLS

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Inkscape, Silhouette Studio/vinyl cutter, Arduino. Illustrator, InDesign, AutoCAD, Fusion, Sketchup, GIMP, WordPress, Eagle CAD, Raspberry Pi, Circuit Python, Microsoft Project, Basecamp Illustrator, InDesign, AutoCAD, Fusion, Sketchup, GIMP

## PROJECT MANAGEMENT TOOLS

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Excel, Microsoft Word, Outlook, PowerPoint, Microsoft Project, Slack. Familiar with, WordPress, Eagle CAD, Raspberry Pi, Circuit Python

LinkedIn Profile:

[Linkedin.com/in/rachelhellenga](https://www.linkedin.com/in/rachelhellenga)



Digital Portfolio and Media Interviews:

[Hellenga.com](https://hellenga.com)



