

# Universal Design and Public Open Space

Emory Baldwin, AIA, FabCab

Karen L. Braitmayer, FAIA, Studio Pacifica, Ltd.

Jocelyn Freilinger, ASLA, Keystone Place Solutions, LLC

August 18, 2011

## THE NEXT GENERATION ACCESSIBLE BUS

2011 Design C  
Call for



ACCESSIBLE PUBLIC TRANSPORTATION  
State-of-the-Science Workshop

International Conference on BEST PRACTICES in UNIVERSAL DESIGN

Competition B:  
Public transportation  
because it is a  
participation, and  
This design compe  
designers, and fut  
Next Generation A  
technologies and

Competition C:  
Designs should ad  
**Boarding / disemb**  
**Interior circulation**  
**Safety** (handrails, v  
**Communication /**  
Design suggestion:

Submissions

- To submit: Go to  
the Universal De  
Select "Design C"
- Provide a brief i  
field on the Subr
- Submit one 20"  
demonstrate the

ARCHITECTURAL RECORD AUGUST 2011

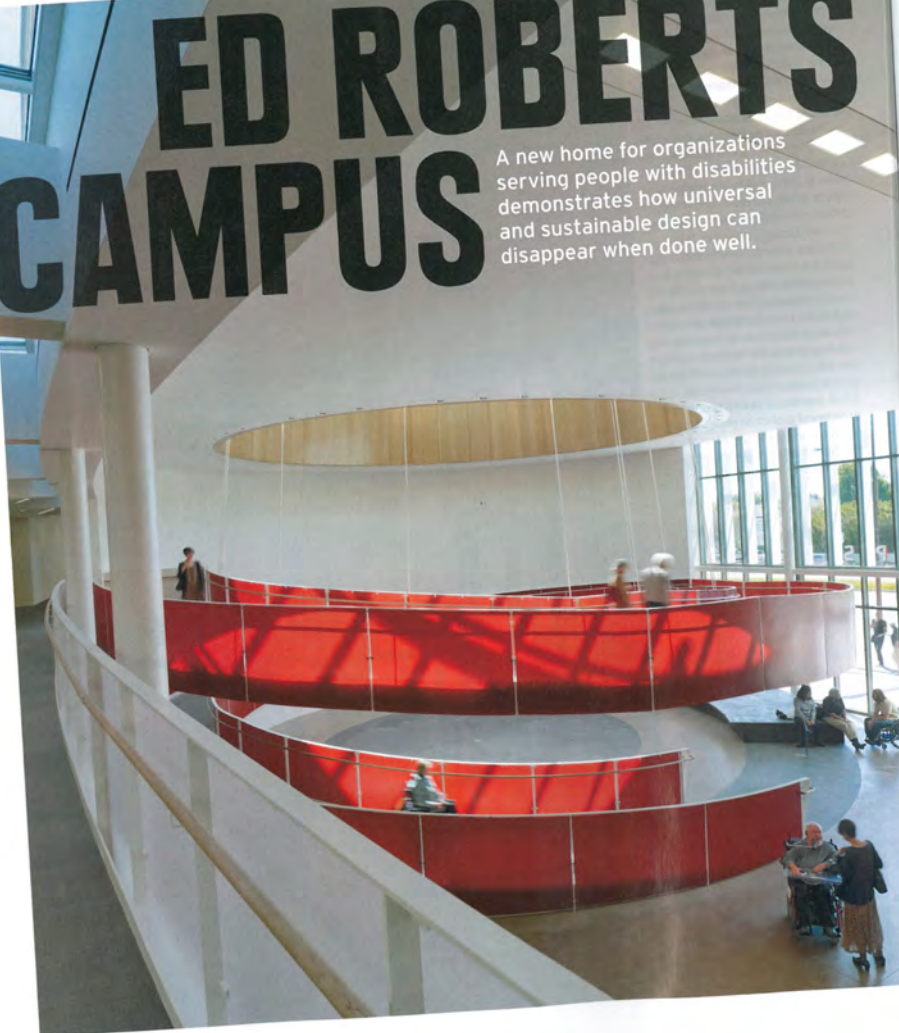
AR PROJECT

CEU  
CEU

Leddy Maytum Stacy Architects / By Clifford A. Pearson

# ED ROBERTS CAMPUS

A new home for organizations  
serving people with disabilities  
demonstrates how universal  
and sustainable design can  
disappear when done well.



## IDEAS COMPETITION 2011

PRESENTED BY  
THE AMERICAN INSTITUTE OF ARCHITECTS  
THE YOUNG ARCHITECTS FORUM  
THE COMMITTEE ON DESIGN

THIS YEAR'S BIG IDEA:  
**UNIVERSAL DESIGN**

ARCHITECTURAL  
RECORD

TO'S  
UBAI  
USE  
GEN  
ITAL  
TON  
RIAL  
WAY

# Goals for this session

- Why Universal Design? Who benefits?
- Case studies from US and abroad
- Universal Design's role in Sustainability
- Inspire Universal Design in future projects

## Core thoughts:

“Design is powerful and profoundly influences our daily lives and our sense of **confidence**, **comfort**, and **control**.”

“Variation in ability is **ordinary**, not special, and affects most of us for some part of our lives.

Valerie Fletcher, Institute for Human Centered Design

# Universal Design

## Definitions:

Universal design is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.

Ron Mace  
The Center for Universal  
Design  
NC State University

A framework for the design of buildings, products and information technology to be useable by the widest range of users.

Valerie Fletcher  
The Institute for Human Centered Design

# Seven Guiding Principals of UD

- **Equitable Use** The design is useful and marketable to people of diverse abilities.
- **Flexibility in Use** The design accommodates a wide range of individual preferences and abilities.
- **Simple and Intuitive Use** Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills or current concentration level.
- **Perceptible Information** The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.
- **Tolerance for Error** The design minimizes hazards and the adverse consequences of accidental or unintended actions.
- **Low Physical Effort** The design can be used efficiently and comfortably and with a minimum of fatigue.
- **Size and Space for approach and Use** Approximate size and space is provided for approach, reach, manipulation, and use regardless of the user's body size, posture, or mobility.
- © NC State University, The Center for Universal Design

# UD and the ADA

The ADA Standards for Accessibility are limited in application and set **minimum design requirements** focused largely on mobility aid users.

UD is a framework for rethinking the design of all environments, products, information AND communication for the **widest possible spectrum of users.**

# Human Factors

Humans come in a wide range of abilities, sizes, ages, cognitive and sense acuity. We must embrace designing for the range, not for some narrow portion considered the “norm”.

# The Human Spectrum

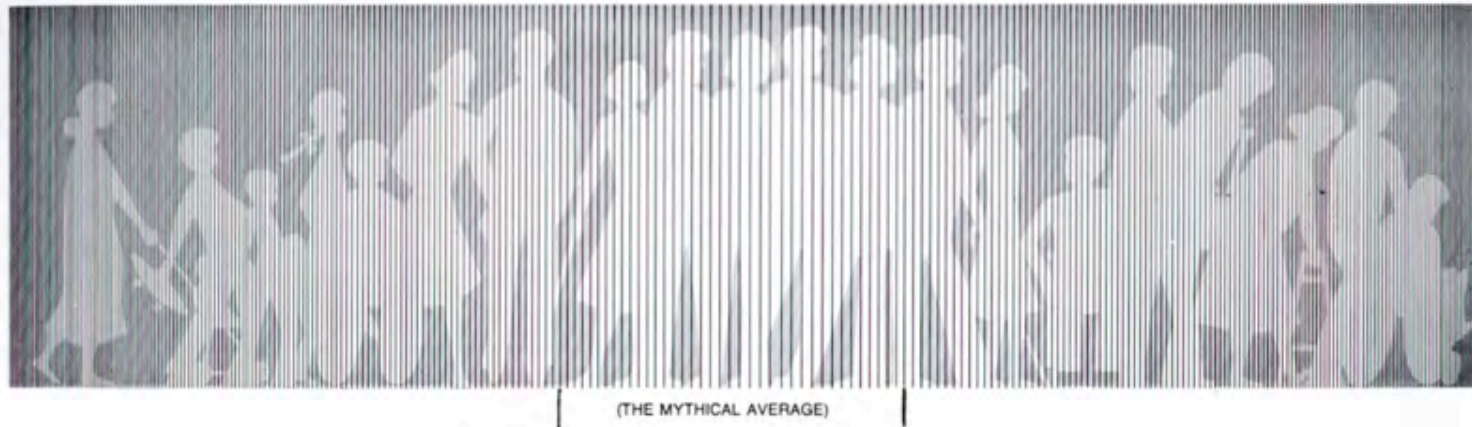
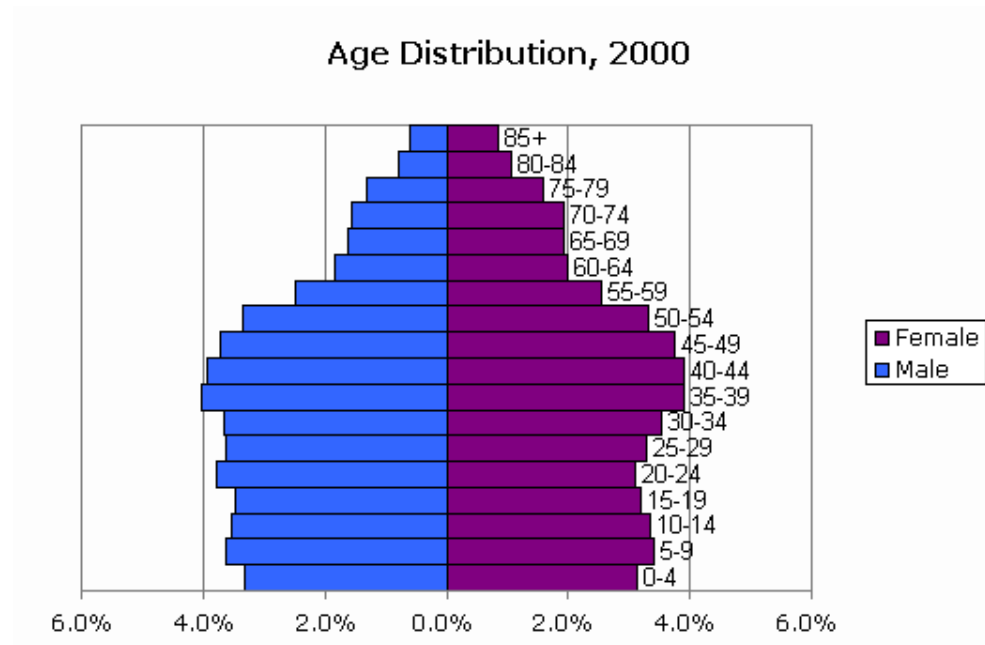


Image by Barbara Allen, author, UD instructor

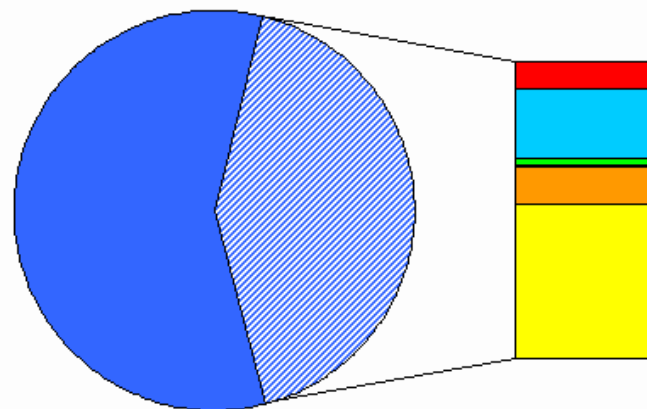


# Census Data



# Census Data

Disability Status of the Aged, 2000



- No disability
- Sensory disability only
- Physical disability only
- Mental disability only
- Selfcare disability only
- Mobility disability only
- Two or more disabilities



Buildings are static, people aren't!

# Environment influences Ability

A person with low hearing notices their “impairment” more in noisy environments and may not be able to participate.

A person who uses a wheelchair is restricted by steps or steep slopes and may not be able to get to their chosen location.

A person who has low vision is limited by low or no-contrast in surface materials and may inadvertently wander into an automobile zone.



Millennium Park, Chicago, IL



Millennium Park, Chicago, IL





Millennium Park, Chicago, IL

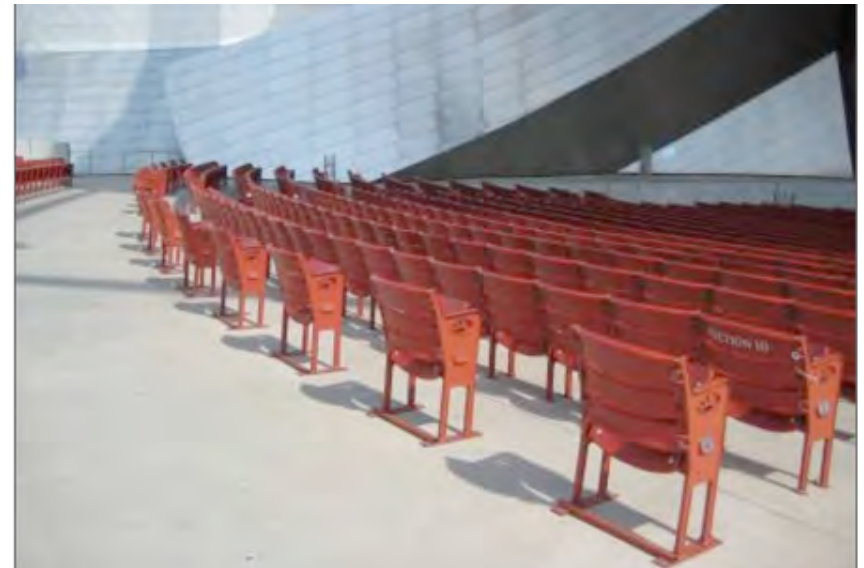


BP Bridge (Frank Gehry)  
Millennium Park, Chicago, IL





Jay Pritzker Pavillion (Frank Gehry)  
Millennium Park, Chicago, IL



Jay Pritzker Pavillion (Frank Gehry)  
Millennium Park, Chicago, IL



Millennium Park, Chicago, IL

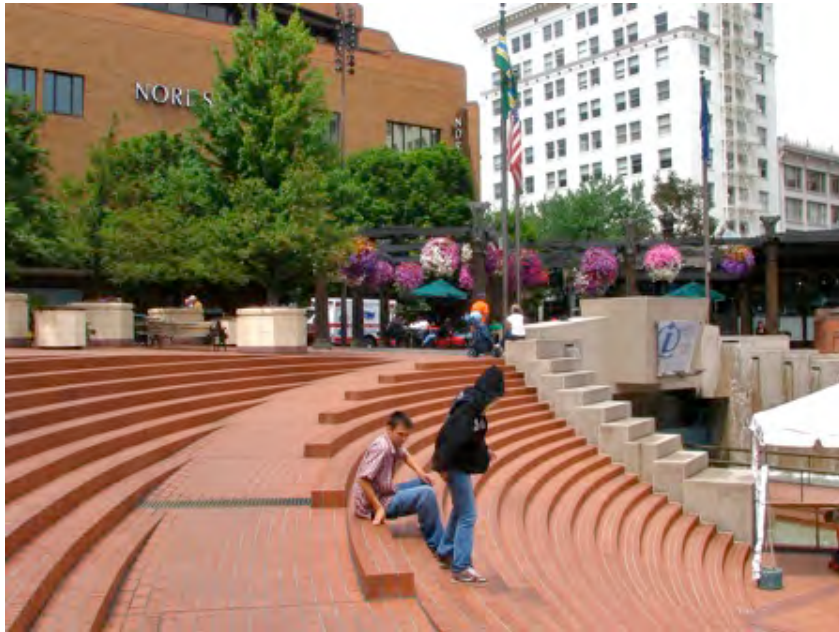




Millennium Park, Chicago, IL



MAX lightrail, Portland State Univ., Portland, OR



Pioneer Square, Portland, OR





MRT Station, Singapore



MRT Station, Singapore





Ponte de Frati, Venice, Italy

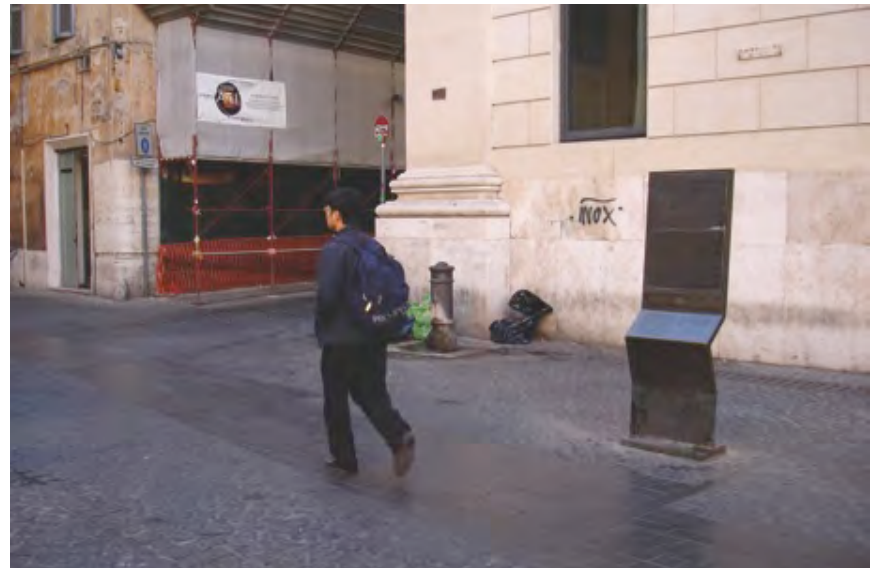


Ponte de Frati, Venice, Italy





Ponte, Venice, Italy



Rome, Italy





Rome, Italy



Rinku Park, Japan  
Yoshisuke Miyake, SEN, Inc.





Sensory Garden, Oizumi Ryokuchi Park, Osaka, Japan  
Yoshisuke Miyake, SEN, Inc.



Sensory Garden, Oizumi Ryokuchi Park, Osaka, Japan  
Yoshisuke Miyake, SEN, Inc.



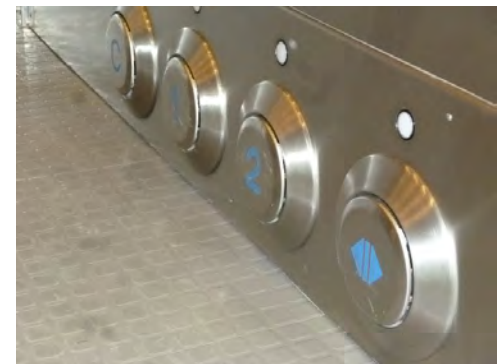


Jennifer Schweiger Playground, Graniteville Park, Staten Island, NY



Jennifer Schweiger Playground, Graniteville Park, Staten Island, NY

# Ed Roberts Campus

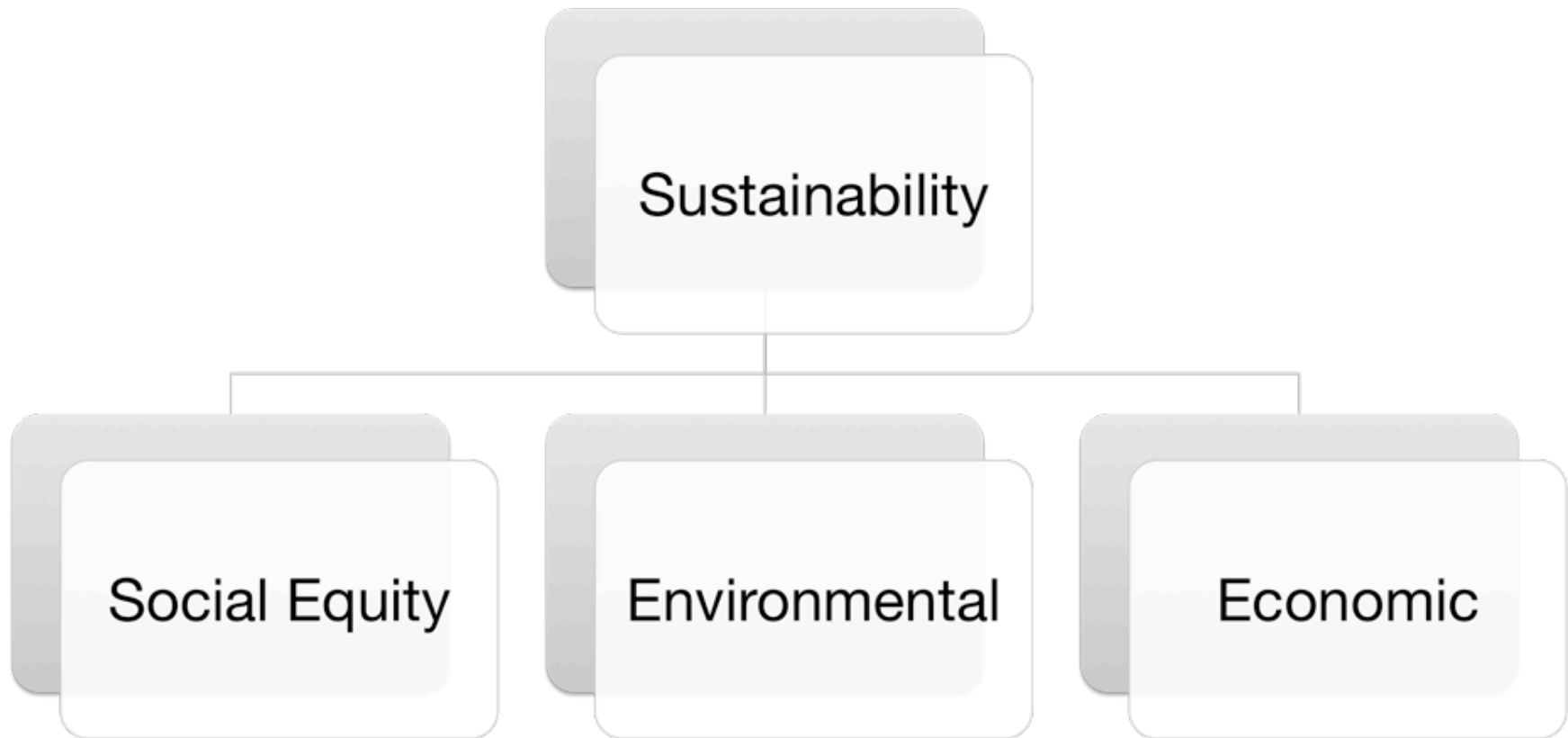




# Terminal 2, San Francisco Intl. Airport



# The Three-legged Stool



# Sustainable and Universal

The 2006 Rio Charter on Universal Design for Sustainable and Inclusive Development defines the purpose of Universal Designs as

**“serve needs and make possible social participation and access to goods and services by the widest possible range of users, contributing to both the inclusion of persons who have been prevented from interacting in society and to their development.**

Examples of such groups include: poor persons, persons marginalized for reasons of culture, race, or ethnicity, persons with different types of disabilities, very obese persons and pregnant women, very tall or very short persons, including children, and all those who for different reasons have been excluded from social participation.”

# UD and Sustainability

Social Equity

Socially Sustainable

Economically + Socially Sustainable

Environmentally + Economically Sustainable

UD + Sustainability = Good Design

“Design is only one part of the solution to a more inclusive world in which all people have equal opportunity for independence, autonomy and participation.

But **design matters.**

Understood as the work of 'changing existing situations into preferred ones' [Simon, 1967], and expanded to embrace solutions that include everyone, Universal Design is a framework that accepts diversity of ability and age as the most ordinary reality of being human and evaluates strategies and solutions based on how well they meet the needs of the widest possible group of potential users and enhance everyone's experience.

It demands a quality of creativity and invention that can energize generations of designers to become partners with users in a revitalized appreciation of design as **intrinsic to social sustainability.**”

Institute for Human Centered Design



Presenters:

Emory Baldwin, AIA, FabCab  
[ebaldwin@fabcab.com](mailto:ebaldwin@fabcab.com)

Jocelyn Freilinger, ASLA, Keystone Place Solutions, LLC  
[keystone.place.solutions@gmail.com](mailto:keystone.place.solutions@gmail.com)

Karen L. Braitmayer, FAIA, Studio Pacifica, Ltd.  
[karen@studiopacifica.com](mailto:karen@studiopacifica.com)

## Image and photography credits

- Universal Design Exemplars, The Center for Universal Design, North Carolina State University, 2000.
- Jennifer's Playground: <http://www.nycgovparks.org/parks/R114/>
- Universal Design Handbook - Preiser and Ostroff, eds., McGraw Hill 2001.

Chapter 15, Accessible Design in Italy

Chapter 48, Landscape Design