



Design Principles and Practices

An International Journal — Annual Review

Design Principles and Practices: An International Journal Annual Review - Volume 10

Associate Editors

Essam Abu Awad	Timothy Oluseun Adekunle
Julianah Bolade Adeniji	Leila Aflatoony
Ajla Aksamija	Ahmad Alansari
Abeer Alawad	Rita Assoreira Almendra
Nehal Almerbati	Shahnaz Aly
Inês Amaral	Randy Anaya
Catherine Anderson	Celina Ivette Andino
Katherine Annett-Hitchcock	Yasin Arslan
Carol A. Atkinson	Marzieh Azad Armaki
Susana Azevedo Cardal	Stephen Bader
Mark Bailey	Jessica Baratta
Robert Barelkowski	Richard Bello
Maurício Moreira e Silva Bernardes	Sehr Bokhari
João Bonelli	Claudia Borges e Souza Paraizo
Bryan Bowens	Lars Brehm
Caelli Brooker	Yi Cai
Leonardo Cardarelli Leite	Juliana Cardoso Braga
Valeria Carnevale	João Casaca
Wen Huei Chou	Denis A. Coelho
Liam Colquhoun	Colleen Comerford
Jillian Coorey	Davison Coutinho
David Craib	Ana Curralo
Cindy Bailey Damschroder	Marilyn DeLong
Ana Cristina Dias	Cynthia Dias

Kate Dunstone	Barbara Emanuel
Kurt Espersen-Peters	Pedro Espinoza
Jackeline Lima Farbiarz	James. W.R Fathers
Ayman Fathy	Kenan Fishburne
Peter Ford	Silje Alberthe Kamille Friis
Richard Fry	Margarida Gamito
Mohammed Ghonim	Alfonso Gomez
David Goss	Annette Greer
Alexis Gregory	Daniela Kutschat Hanns
Anders Haug	Dustin Headley
James A. Higgins	Amic G. Ho
Gray Hodgkinson	Ashley Holmes
Matthew Holmes-Dallimore	Susana Hormigos-Jimenez
Sumana Hossain	Po Siu Hsu
Shu-fang Huang	Amy M. Huber
Alisa Hutchinson	Valeria Iannilli
Jessica Jacobs	Minna Jakobsson
Jirasak Jindarojana	Soojung Jun
Janet Kagan	Chutarat Laomanacharoen
Tatjana Leblanc	Charles CC Lee
Marike Le Roux Spangenberg	Ken Li
Alex Liebergesell	Claudio Lima Ferreira
Chien-Wen (Pam) Lin	Andrea Lorenzi
Cristina Lucchini Ferrari	Qing Lana Luo
Gloria Ma	Ronald Macfarlane
Joaquim Lloveras Macia	Debra Mackinnon
Claudio Magalhães	Agustina Martire
Giovanna Marton	Mayank Mathur
Melissa McMullen	Susan Martin Meggs
Laura Minestroni	Chumporn Moorapun
Bhakti More	Bruna Ruschel Moreira
Martina Motta	R.J. Multari
Ken Nah	Elen Nas

Nanki Nath	Carman Neustaedter
Niphattha Noiprawat	Catherine Normoyle
Mauricio Novoa	Kevin Nute
Toru Ottawa	Larisa Paes
Eugene Park	Myung Hae Park
Graipop Paspirom	Dhara Ramesh Patel
Marcelo F. Pereira	Yvette Perullo
Perry Polar	Liana Psarologaki
Andrea Quam	Francisco Queiroz
Wael Rashdan	Julie Rees
Axel Roesler	Marcello Rosauro
Michelle Rothwell	Arianne Rourke
Miguel Angel Rubio Toledo	Azin Saeedi
Brenda Saris	Peer M. Sathikh
Andrew Schneider	James Self
Linda Selwood Choueiri	Emily Shupe
José Silveira Dias	Phitphan Sittirak
Chaehan So	Daniel S. Spiegel
Thomas Spiegelhalter	Casey Stannard
John Takamura	Cigdem Tas Alicenap
Lucia Taylor	Sarasadat Tejareh
Julia Teles da Silva	Stephen Temple
Terry Thibodeaux	Joyce Thomas
Jyotsna Tiwari	Nicole Tomazi
Stephen D. Trathen	Patrick Van Inwegen
Simona Venditti	Ricardo Victoria-Uribe
Emilio Vilar	Ron Wakkary
Kie Watkins	Paul Wells
Jon Wenberg	Susan Wilkinson
Christie Wong	Alexander Wright
Tyan Yu Wu	Peyman Yousef Jowkar
TamerYousif Yousif	Mithra Zahedi
Lisa Zamberlan	



The International Journal of
Architectonic, Spatial, and Environmental Design

The International Journal of Architectonic, Spatial, and Environmental Design - Volume 10

Associate Editors

Halil Zafer Alibaba

Kevin Almond

Juan Armellini

Christopher Boyko

Kurt Espersen-Peters

Amanda Horton

Matteo Iommi

Maria Inês Lourenço

Melissa McMullen

Sabahat Nawaz

Paul T. Skaggs

Casey Stannard

Nicole Tomazi

Mohammed Aliyu

Katherine Annett-Hitchcock

Anne Bergner

Deniz Cetin

Michael Heinrich

Amy M. Huber

Mohammad Arif Kamal

Gloria Ma

Susan Leigh Moore

Shatarupa Thakurta Roy

Sebnem Soher

Liz Teston

Jeanneane Wood-Nartker



The International Journal of
Design Education

The International Journal of Design Education - Volume 10

Associate Editors

Essam Abu Awad

Mark Bailey

Bihter Almaç

Simon Biggs

Caelli Brooker	Yi Cai
Valeria Carnevale	João Casaca
Laila Cassim	Chiara Colombi
Brie Constantino	Pedro Espinoza
Emmanuel Louis Etsename	João F. Figueiredo
Francesco Galli	Hugo Gomez
Ruth X. Guo	Daniela Kutschat Hanns
Michael Heinrich	Herminia Hemmitt
Robert Hillier	Chris Jeffs
Jirasak Jindarojana	Megan Kek
Akari Kidd	Nadya Kozinets
Claudio Magalhães	Kamarudzaman Md. Isa
Poornima Sajive Nair	Douglas Neale
Mauricio Novoa	Michael Philips
Wael Rashdan	Katrina Sandbach
Casey Stannard	Pornchai Tamthinthai
Lindsay Tan	Joyce Thomas
Ricardo Victoria-Uribe	



The International Journal of
Design in Society

The International Journal of Design in Society - Volume 10

Associate Editors

Essam Abu Awad	Leila Aflatoony
A. Katherine Bambrick Ambroziak	Randy Anaya
Cheryl Anne Atkinson	Lars Brehm
Marianella Chamorro-Koc	Veena Chattaraman
Ji Young Cho	Dustin Headley
Roxanne Hovland	Orla Keane

Gregory Marinic

Luiza Novaes

Charanya Phaholthep

Ulrike Rogler

Selena Savic

Lisa Zamberlan

Joshua Mollenkamp

Mauricio Novoa

Wael Rashdan

Mikko Sääskilahti

Joyce Thomas



The International Journal of
Design Management and Professional Practice

The International Journal of Design Management and Professional Practice - Volume 10

Associate Editors

Hurmat Ain

Eduardo Barbera

Alexandre Farbiarz

Kenan Fishburne

Gray Hodgkinson

Maíra Lacerda

Cristina Lucchini Ferrari

Marci Mazzarotto

Francisco Palmeira de Lucena

Andrea Quam

Miguel Angel Rubio Toledo

Alexander Walker

Yu Yoshii

Zina Alaswad

Ian Dixon

Jackeline Lima Farbiarz

Jessica Goldsmith

Marcy L. Koontz

Alex Liebergesell

Giovanna Marton

Christopher Mulenga Nondo

Behrouz Pourkhorshidi

Shreen Raghavan

Amanda Smith

Stephanie Wilson

Ioli Zavitsanou



The International Journal of
Designed Objects

The International Journal of Designed Objects - Volume 10

Associate Editors

Inês Amaral

Camila Assis Peres Silva

Robyn Blakeman

Sara Colombo

Francisco Felip Miralles

Alfonso Gomez

Esther Lefebvre

Serveh Naghshbandi

Oscar Perez

Paola Sanchez

Jessie Thavonekham

Chelsea Wilkinson

Juan Armellini

Ida Benz

Clara Ceppa

Barbara Del Curto

Adeline Gabriela Silva Gil

Antonio Gorgel Pinto

Kathy Mullet

Sun-Young Park

Charanya Phaholthep

Elisa Serrano

Emilio Vilar



The International Journal of
Visual Design

The International Journal of Visual Design - Volume 10

Associate Editors

Kyuho Ahn

Silvio Anaz

Robyn Blakeman

David Cubby

Shahnaz Aly

Juan Armellini

Elizabeth A. Burroughs

Cindy Bailey Damschroder

Orsolya Tunde Endrody-Nagy

Anders Haug

Susana Hormigos-Jimenez

Mohammad Arif Kamal

Joana Mateus

Charu Monga

Luiza Novaes

Ayse Sentürer

Monica Tracey

So-yeon Yoon

Adeline Gabriela Silva Gil

Robert Hillier

Bee Hughes

Mustaqim Karna

Johan Sebastián Mayorga Sánchez

Alfonso Morone

Junjira Nunta

Phitphan Sittirak

Ricardo Victoria-Uribe