

1-7-2009

## Design Research Quarterly Volume 4, Issue 3

Peter Storkerson

Follow this and additional works at: <https://dl.designresearchsociety.org/design-research-quarterly>

---

### Recommended Citation

Storkerson, Peter, "Design Research Quarterly Volume 4, Issue 3" (2009). *Design Research Quarterly*. 12.  
<https://dl.designresearchsociety.org/design-research-quarterly/12>

This Book is brought to you for free and open access by the DRS Archive at DRS Digital Library. It has been accepted for inclusion in Design Research Quarterly by an authorized administrator of DRS Digital Library. For more information, please contact [DL@designresearchsociety.org](mailto:DL@designresearchsociety.org).

# Events & Listings July 2009

## CURRENT RESEARCH IN DESIGN

### TABLES OF CONTENTS FROM LEADING DESIGN JOURNALS

**ARCHITECTURAL DESIGN, 79:4**

**JUL.–AUG. 2009**

**SPECIAL ISSUE:**

**DIGITAL CITIES:**

ISSN: 0003-8504

[WEB LINK](#)

#### Digital cities (6–13)

Neil Leach

→ Much of our natural environment is based on rule-based behaviours, from the emergent swarm intelligence of flocks of birds and schools of fish, to the complex patterns of snowflakes, ferns, seashells and zebra skins....In this context, it is hardly surprising that architects are now beginning to explore similar principles in the design studio.

#### Parametricism: a new global style for architecture and urban design (14–23)

Patrik Schumacher

→ why parametricism has become the dominant, single style for avant-garde practice today and why it is particularly suited to large-scale urbanism as exemplified by a series of competition-winning masterplans by Zaha Hadid Architects

#### Experiments in associative urbanism (24–33)

Tom Verebes

⌘ how the Design Research Laboratory (DRL) at the Architectural Association in London has employed a parametric approach to urbanism that investigates how associative design systems can control local dynamic information flows through interactive systems, spaces and interfaces

#### Chlorofilia, the Los Angeles jungle (34–39)

Neil Leach

→ the medium of film to explore the dark side of the city of angels....how [Hernan Diaz Alonso] went about challenging the conventional masterplan and provoking with his dystopian view

#### I've Heard about ... (a flat, fat, growing urban experiment): extract of neighbourhood protocols (40–45)

François Roche

→ Urban models are conventionally planned and intended to control urban systems. François Roche's vision is to the contrary: it is for an unpredictable organic urbanism. A biostructure develops its own adaptive behaviour, based on growth scripts and open algorithms.

## TABLE OF CONTENTS:

### LISTINGS:

1 Current Research in design

3 DRS conference 2010:  
Design and Complexity

### DESIGN CONFERENCE CALENDAR:

14 Upcoming Events Worldwide  
Artemis Yagou

### DRQ-DRS

2 Publication information

15 DRQ subscription  
DRS Membership information

#### A digital breeder for designing cities (46–49)

Michael Batty

⌘ how cities can now be grown in digital laboratories and, by imposing realistic constraints on their form, begin to breed good designs that emerge from continual feedbacks that reinforce the best and iron out the worst

#### The limits of urban simulation: an interview with Manuel Delanda (50–55)

Neil Leach

→ What is the potential for applying digital simulation for research in urban planning and development?

---

## DESIGN RESEARCH QUARTERLY PUBLICATION INFORMATION

---

### Editor:

**Dr. Peter Storkerson**  
University of Illinois Urbana-Champaign

### Associate Editors:

**Dr. Vesna Popovic**  
Queensland University of Technology, Australia

**Dr. Kristina Niedderer**  
Hertfordshire University, UK

**Dr. Artemis Yagou**  
AKTO Art and Design, Greece

---

Design Research Quarterly is a peer reviewed journal, published in January, April, July and October by the Design Research Society.

Design Research Quarterly and its contents are published under the Creative Commons Attribution Noncommercial NoDerivs 3.0 License. < <http://creativecommons.org/licenses/by-nc-nd/3.0/> >

You are free to Share—to copy, distribute and transmit the journal or journal articles. Under the following conditions:

**1 Attribution**

- ▶ You must attribute work in the manner specified by the author or licensor (but not in any way that suggests that they endorse you or your use of the work).

**2 Noncommercial**

- ▶ You may not use any part of this journal or work in it for commercial purposes.

**3 No Derivative Works**

- ▶ You may not alter, transform, or build upon any part of this journal or work in it.

Design Research Quarterly is archived on-line: [www.drsq.org](http://www.drsq.org).

---

**We solicit your contributions: papers and articles on design research.**  
For information regarding submissions, contact  
**Peter Storkerson, [peter@drsqs.org](mailto:peter@drsqs.org)**

### Editorial Advisory Board:

**Prof. Ken Friedman**, Chair  
Norwegian School of Management, Norway and Danmarks  
Designskole, Denmark

**Dr. Antti Ainamo**  
Helsinki School of Economics, Finland

**Prof. Tevfik Balcioglu**  
Izmir University of Economics, Turkey

**Prof. Lin-Lin Chen**  
National Taiwan University of Science and Technology, Taiwan

**Prof. Nigel Cross**  
Open University, UK

**Prof. Clive Dilnot**  
Parsons The New School for Design, USA

**Dr. Troels Degn Johansson**  
Denmark's Design School, Denmark

**Prof. Pekka Korvenmaa**  
University of Art and Design, University of Art and Design,  
Finland

**Prof. Kun-Pyo Lee**  
Korea Advanced Institute of Science and Technology, Korea

**Dr. Joao Lutz**  
UniverCidade, Brazil

**Prof. Sanjoy Mazumdar**  
University of California at Irvine, USA

**Prof. Donald Norman**  
Nielsen Norman Group and Northwestern University, USA

**Prof. Sharon Poggenpohl**  
Hong Kong Polytechnic University, China

**Prof. M.P. Ranjan**  
National Institute of Design, India

**Dr. Elizabeth B.-N. Sanders**  
MakeTools, USA

**Prof. Marian Sauthoff**  
University of Pretoria, South Africa

**Dr. Chris Smith**  
London Metropolitan University, UK

**Prof. Toshiharu Taura**  
Kobe University, Japan

**Prof. Necdet Teymur**  
Emeritus, Middle East Technical University, Turkey

7–9 July, 2010  
Montreal, Canada

# DRS Conference 2010:

## Design and Complexity

The Design Research Society Conference DRS 2010 is open to the whole range of design disciplines and contemporary inquiries in design. The theme of Design & Complexity should be understood as a springboard for sharing ideas and concepts about contemporary design research.

We propose to the community of design researchers to think and report on complexity as it is encountered in a variety of the designed product, experience or service:

In the conception phase, the complexity of design lies in the many parameters or criteria that shape the designed product, experience or service: technical, ergonomic, aesthetic, cultural, symbolic, economic, etc. Another level of complexity lies in the design processes which respond to complex logics that are not easily put into an axiomatic formula (creative phases, imagination, reflection-inaction, etc). Finally, there is the actors' dynamic (including the designer) which is the result of the interplay of rhetoric, negotiation, power plays, values, knowledge, ideology, and so on.

When considering the reception of designed products, experience and services, design is faced with understandings of the users that far exceed any single disciplinary model that has been proposed so far, by the likes of cognitive or behavioural sciences, cultural anthropology, microeconomics, semiotics, etc. In the designing disciplines, these models have failed more often than not to be completely relevant to practices. How can we account simultaneously for man as a sensible, emotional, rational, embodied being, requiring a viable material and immaterial world?

**The conference encourages submission of papers on topics including, but not limited to:**

**Complex problem-Issues:**

- Design and technologies
- Interaction design
- Design process
- Design education
- Design management
- Sociology and anthropology of design
- Users and lifestyles
- Ethical and
- deontological issues
- Consumption and sustainability
- Service design
- Design and politics

**Complex approaches in design:**

- Research through project
- Reflection-in-action after Schön,
- Participatory approaches
- Design poetics
- Metaphorical/analogical reasoning
- New aesthetic approaches
- Rhetoric in design
- Phenomenology and hermeneutic
- Care in design
- Practical reasoning
- Eco-design and sustainable design
- Pedagogical innovations
- Multidisciplinarity
- Systemic

<http://www.drs2010.umontreal.ca/>

### Swarm urbanism (56–63)

Neil Leach

- Cities can be regarded as manifestations of emergent behaviour - not unlike like that of a colony of ants or a flock of birds....Software programs that display a similar emergent logic to cities might lend themselves to the development of a new computational methodology for modelling urban form

### Morphogenetic urbanism (64–67)

Peter Trummer

- A morphogenetic model of urban design in which matter and form are placed in a dynamic rather than a fixed relationship.

### Digital towers (68–79)

Neil Leach

### Spatial design economies (80–85)

Alain Chiaradia

- ⌘ how space syntax spatial analyses might enable spatial design economies in the future, with special reference to London and the Borough of Tower Hamlets in particular

### Hyperhabitat: reprogramming the world (86–89)

Neil Leach

- What are the possibilities and implications of global connectivity? Could individual living spaces be wired up to large-scale structures and networks?

### iPhone city (90–97)

Benjamin H. Bratton

- Whereas once the metropolis alone brought together people, markets, goods, transport and information, the iPhone and similar handheld devices are changing spatial interaction.

### Jan Kaplický (1937–2009): homage to an extraordinary life of unfulfilled dreams and major successes (100–107)

Ivan Margoliu

- Close friend and fellow Czech architect and writer Ivan Margolius, celebrates not only Kaplicky the architect, but also the extraordinary life and sensibility of the man behind his work.

### AD+ Interior Eye

#### Alice Tully Hall, New York (108–113)

Jayne Merkel

- ⌘ This lively, elegant, personal and welcoming building bodes well for the dozen other public places and performance spaces that the architects will be renovating there over the next few years....The most respectful way to treat historic structures may be to meet them head-on.

### AD + Building Profile

#### The feildbarn (114–117)

David Littlefield

- ⌘ an initiative to find an alternative use for the disused field barns of the Yorkshire Dales that will retain for prosperity these beautifully crafted structures roughened and enhanced by time

### AD+ Userscape

#### Lighting up (118–121)

Valentina Croci

- ⌘ the potential that lighting design offers for interactive work, whether it is transforming unwelcoming urban spaces or enhancing the public's experience of the city

### AD+ Yeang's Eco-Files

#### Seawater greenhouses and the Sahara forest project (122–123)

Ken Yeang, Michael Pawlyn

- ⌘ how seawater, when combined with the biological know-how of a beetle, might hold the key for creating fresh water in desert environments

### AD+ McLean's Nuggets

#### McLean's nuggets (128–129)

Will McLean

### AD+ Spiller's Bits

#### Parallel biological futures (130–131)

Neil Spiller

- ⌘ the digital and envisions a surreal future of biological parallelism that pushes the boundary of architecture deep into the natural sciences, potentially creating huge rafts of new architectural flora and fauna

### AD+ Site Lines

#### FREEZE: A Celebration of Design in the Modern North (132–135)

Eric Firley

- ⌘ an art and architectural event in early 2009 that set out to celebrate the climate, landscape and light of the icy north

---

### ARCHITECTURAL DESIGN, 79:3

JUL.–AUG. 2009

SPECIAL ISSUE: ENERGY

ISSN: 0003-8504

[WEB LINK](#)

### Twelve Easy Pieces for the Piano (6–11)

Sean Lally

### Contingent Behaviours (12–17)

Michelle Addington

- Addington questions the accepted Modernist conception of the interior as a hermetically sealed envelope....in the quest for public sanitation and a misguided belief in the toxic interior.

### 99.7 per cent pure (18–23)

Mason White

- ⌘ the work of Canadian installation artist An Te Liu who made air-filtration appliances his main subject

Continued p. 5 →

**“Never mind all that environmental rubbish, get on with your architecture” (24–29)**

Penelope Dean

- ⌘ Could the primacy of green architecture in recent years be eroding the discipline? Is it reducing architecture to a mere environmental techno-science?

**Meteorological architecture (30–41)**

Philippe Rahm

- ⌘ the emergence of a new meteorological architecture, in which the invisible takes precedence over the visible, and the atmospheric, conduction of heat, perspiration and shifting weather and climate conditions are foregrounded

**Domestic micro-environments (42–47)**

Mathieu Lehanneur

- ⌘ [readdressing] our understanding of domestic spaces through the environmental systems that control and condition them

**Breeding the Future (48–53)**

Zbigniew Oksiuta

- ⌘ a future of architecture that is biological, as demonstrated by...bioforms that investigate the cultivation of new types of organisms and living biological products outside the confines of natural evolution

**When cold air sleeps (54–63)**

Sean Lally

- ⌘ climatic conditions open up new potential for organisational and spatial design

**Overlooked the day before: the work of Pierre Huyghe (64–69)**

Sean Lally

- ⌘ two projects by artist Pierre Huyghe that use the materials and strategies of stage design—lighting, sound, fog and other atmospheric effects—and introduce them into everyday contexts

**Energy histories (70–75)**

David Gissen

- ⌘ how architectural history might be reshaped by the new focus on energies, which will leave the conventions of the discipline redundant

**Energy forms (76–83)**

AMID (Cerog): Cristina Díaz Moreno + Efrén García Grinda

- ⌘ a new system for architecture that is founded on a spatial understanding of thermodynamic exchange and environmental systems and effects

**The instinctive sense of space and boundary (84–87)**

Petra Blaisse

- ⌘ how the studio focuses on the boundary of interior and exterior space, adding and subtracting highly tactile and sensuous layers

**Potential futures (88–97)**

Sean Lally

- ⌘ questioning the notion of the boundary and investigating the realm of materiality associated with energy

**AD+ interior eye**

**Kings Place: Hall One (100–105)**

Howard Watson

- ⌘ how, through the inclusion of two small auditoria in the basement of Kings Place in London King’s Cross, Dixon Jones was able to create a true mixture of amenities while responding to the area’s cultural needs and eclipsing its reputation for being less than salubrious

**AD+ Practice Profile**

**Weisz + Yoes (WXY architecture + urban design) (106–113)**

Jayne Merkel

- ⌘ changing the face of Times Square and redesigning historic Battery Park at the southern tip of Manhattan

**AD+ Building Profile**

**The Royal Institution (114–119)**

David Littlefield

- ⌘ Rethinking of the Royal Institution in Mayfair has led to a rationalisation and redesign that has transformed the premises from a tatty Georgian labyrinth into an airy series of modern spaces.

**AD+ Unit factor**

**Articulating environmental grounds (120–123)**

Anne Save de Beaucueil, Franklin Lee

- ⌘ A new generation of thinking is emerging in the manipulation of ground systems that, with the aid of parametrics, is enabling a new level of design precision and ecological calibration.

**AD+ Spiller’s Bits**

**Architecture of disbelief: is architectural speculation a good thing? (124–125)**

Neil Spiller

- ➔ Neil Spiller attended a conference in Cornell that brought the role of the architectural visionary under the spotlight and gave him much food for thought.

**AD+ Yeang’s Eco-Files**

**Bioluminescence and nanoluminescence (126–127)**

Ken Yeang

- ➔ electricity’s reliance on coal-fired power stations and other limited mineral and petroleum resources....some clues for its resolution in existing biological and evolving artificial systems

**AD+ McLean’s Nuggets**

**McLean’s nuggets (128–129)**

Will McLean

Continued p. 6 ➔

### AD+ Userscape

#### An unconventional low-cost museum (130–133)

Valentina Croci

- ▶ how a diminutive museum dedicated to the feminine arts in Salerno, southern Italy, provides an intimate experience for visitors

### AD+ Site Lines

#### Tower houses of Sana'a (134–135)

Eric Firley

- ▶ A new compendium... which investigates 30 major housing types from around the world, describes one of the most intriguing examples, situated in the Yemen on the Arabian Peninsula.

### ARTIFICIAL INTELLIGENCE FOR ENGINEERING DESIGN, ANALYSIS AND MANUFACTURING 23:3

AUGUST 2009

ISSUE: TANGIBLE INTERACTION FOR DESIGN

ISSN: 0890-0604

[WEB LINK](#)

#### Framing tangible interaction frameworks (225–235)

Ali Mazalek and Elise van den Hoven

- ▶ design; frameworks; tangible interaction

#### Tangible interactions in a digital age: medium and graphic visualization in design journals (237–249)

Lora Oehlberg, Kimberly Lau, Alice Agogino

- ▶ design journals; design tools; informal design information; tangible interaction

#### Prototyping a tangible tool for design: Multimedia e-paper sticky notes (263–274)

Maribeth Back, Takashi Matsumoto, Anthony Dunnigan

- ▶ electronic paper applications; multimedia interfaces; physical/digital design tools; prototyping with new technologies; tangible computing

#### A tangible design tool for sketching materials in products (275–287)

Daniel Saakes, Pieter Jan Stappers

- ▶ augmented reality; ceramics; design tool; tangible interaction

#### Analyzing opportunities for using interactive augmented prototyping in design practice (289–303)

Jouke Verlinden, Imre Horváth

- ▶ augmented reality; case study; design process; prototyping; tangible user interfaces

#### Play-it-by-eye! Collect movies and improve perspectives with tangible video objects. (305–316)

Cati Vaucelle, Hiroshi Ishii

- ▶ children; interaction design; storytelling; tangible user interfaces; video

### ARTIFICIAL INTELLIGENCE FOR ENGINEERING DESIGN, ANALYSIS AND MANUFACTURING 23:2

MAY 2009

ISSN: 0890-0604

[WEB LINK](#)

#### Fuzzy wavelet neural network for prediction of electricity consumption (109–118)

Rahib H. Abiyev

- ▶ fuzzy wavelet neural network; neurofuzzy modeling; prediction of electricity consumption; time series prediction; wavelet network

#### A novel approach for failure modes and effects analysis based on polychromatic sets (119–129)

Guo Li, Jianmin Gao, Fumin Chen

- ▶ causal relationship; failure modes and effects analysis; knowledge modeling; polychromatic sets; reasoning matrix

#### Evolving product form designs using parametric shape grammars integrated with genetic programming (131–158)

Ho Cheong Lee, Ming Xi Tang

- ▶ configuration designs; evolutionary shape grammars; genetic programming; interactive grammar-based design systems; product designs

#### Data envelopment analysis approaches for solving the multiresponse problem in the Taguchi method (159–173)

Abbas Al-Refaie, Tai-Hsi Wu, Ming-Hsien Li

- ▶ data envelopment analysis; multiresponse problem; Taguchi method

#### Search heuristics for constraint-aided embodiment design (175–195)

R. Chenouard, L. Granvilliers, P. Sebastian

- ▶ constraint satisfaction; embodiment design; heuristic; search

#### Reusability-based selection of parametric finite element analysis models (197–214)

Nsikan Udoyen and David W. Rosen

- ▶ engineering information management; finite element analysis; model reuse; reusability

### ARTIFICIAL INTELLIGENCE FOR ENGINEERING DESIGN, ANALYSIS AND MANUFACTURING 23:1

MAY 2009

ISSUE: DEVELOPING AND USING ENGINEERING ONTOLOGIES

ISSN: 0890-0604

EISSN: 1469-1760

[WEB LINK](#)

#### A formal ontological perspective on the behaviors and functions of technical artifacts (3–21)

Stefano Borgo, Massimiliano Carrara, Pawel Garbacz, Pieter E. Vermaas

- ▶ behavior; engineering; formal ontology; function; technical artifact

Continued p. 7 →

**Structure, behavior, and function of complex systems: the structure, behavior, and function modeling language** (23–35)

Ashok K. Goel, Spencer Rugaber, Swaroop Vattam

- ▶ behavior; function; ontology; structure; teleology

**A methodology for engineering ontology acquisition and validation** (37–51)

Zhanjun Li, Maria C. Yang, Karthik Ramani

- ▶ engineering information retrieval; engineering ontology; knowledge acquisition; ontology validation

**A dynamic knowledge modeler** (53–69)

Robert Harrison and Christine W. Chan

- ▶ knowledge engineering; ontology; semantic web; software engineering

**Ontology-based modeling and integration of morphological characteristics of assembly joints for network-based collaborative assembly design** (71–88)

Kyoung-Yun Kim, Seongah Chin, Ohbyung Kwon, R. Darin Ellis

- ▶ collaborative product design; mereotopology; morphological characteristics; ontology; semantic web rule language

**IfcOWL: a case of transforming EXPRESS schemas into ontologies** (89–101)

Jakob Beetz, Jos van Leeuwen, Bauke de Vries

- ▶ building information modeling; knowledge representation; model-driven architectures; ontologies

---

**THE DESIGN JOURNAL**

12:2 JULY 2009

ISSN: 1460-6925

[WEB LINK](#)

**Use of a modified delphi technique to define creative scholarship and identify criteria to evaluate creative scholarship in textiles and apparel design in the United States** (131–151)

Melinda K. Adams, Sonya S. Meyer

- ▶ creative scholarship; definition; criteria

**Creativity training in higher design education** (153–169)

Kung Wong Lau

- ➔ The aim of this paper is to foster further discussions on providing creativity training in higher design education.

**Reflections on design excellence through international product design award schemes** (171–194)

Whan Oh Sung, Kyung-Won Chung, Ki-Young Nam

- ✎ international product design award schemes to identify the relationship between successful manufacturers in design award schemes and their corporate design competitiveness

**Design of illuminating textile curtain using solar energy** (195–216)

Amine Hadj Taieb, Slah Msahli, Faouzi Sakli

- ➔ ... an illuminating textile curtain using flexible photovoltaic cells to collect and store solar energy. In the long term, this design may help towards ensuring a better quality of life for everyone, now and in the future.

**Connections between modern and postmodern art and fashion** (217–241)

Samantha Vettese Forster

- ➔ the affinities and divergences in the genres of art and fashion throughout the 20th century through the use of particular visual and theoretical examples

**Book Reviews**

**The culture of design (second edition).**

Guy Julier (243–248)

Paul Atkinson

**Consumer motivation: foundations for a theory of consumption.**

Carlo Mari (249–254)

Jack Ingram

**Space unjust: socio-spatial discrimination in urban public space: cases from Helsinki and Athens.**

Michail Galanakis (255–257)

Deana McDonagh

---

**DESIGN STUDIES, 30:5**

SEP. 2009

ISSN: 0142-694X

[WEB LINK](#)

**Legitimizing design: a sociology of knowledge account of the field** (483–502)

Lucila Carvalho, Andy Dong, Karl Maton

- ▶ design knowledge; design theory; epistemology; interdisciplinarity; sociology of design

**Transforming shape in design: observations from studies of sketching** (503–520)

Miquel Prats, Sungwoo Lim, Iestyn Jowers, Steve W. Garner, Scott Chase

- ▶ drawings; conceptual design; shape transformations; shape rules; computer-aided design

**Biasing cognitive processes during design: the effects of color** (521–540)

Amod Damle, Philip J. Smith

- ▶ design cognition; drawing; modeling; design tools; humane computer interaction

**Project methods as the vehicle for learning in undergraduate design education: a typology** (541–560)

Nicolette Lee

- ▶ case study/studies; design education; project-based learning

Continued p. 8 ➔



**New product development practice application to an early-stage firm: the case of the PaperPro® StackMaster™** (561–587)

Tucker J. Marion, Timothy W. Simpson

- ▶ product development; product design; case study; start-up; design education

**Henry Ford and the Model T: lessons for product platforming and mass customization** (588–605)

Fabrice Alizon, Steven B. Shooter, Timothy W. Simpson

- ▶ design practice; automotive design; design history; customization; product development

**Biologically inspired design: process and products** (606–622)

Michael Helms, Swaroop S. Vattam, Ashok K. Goel

- ▶ engineering design; biologically inspired design; design cognition; design process; design techniques

---

**DESIGN STUDIES, 30:4**

**JUL. 2009**

ISSN: 0142-694X

[WEB LINK](#)

**The ontology of Gero's FBS model of designing** (321–339)

Per Galle

- ▶ design model; design theory; ontology; philosophy of design

**Design knowledge recycling using precedent-based analysis and synthesis models** (340–368)

Buthayna Hasan Eilouti

- ▶ architectural design; case-based reasoning; design knowledge; design precedents; knowledge recycling

**Optimising design objectives using the Balanced Scorecard approach** (369–392)

Franky W.H. Wong, Patrick T.I. Lam, Edwin H.W. Chan

- ▶ balanced scorecard; design management; aesthetics; communication; design tools

**An affordance-based approach to architectural theory, design, and practice** (393–414)

▶ Jonathan R.A. Maier, Georges M. Fadel, Dina G. Battisto

- ▶ architectural design; design theory; design practice; design process; theory of affordances

**Assessing perceived credibility of traditional and computer generated architectural representations** (415–437)

Nada Bates-Brkljac

- ▶ design activity; representations; communication; perception; architectural design

**Cultural patterns in product design ideas: comparisons between Australian and Iranian student concepts** (438–461)

Mohammad Razzaghi, Mariano Ramirez Jr., Robert Zehner

- ▶ cultural aspects of design; conceptual design; industrial design

**Re/claiming the past—constructing Ojibwe identity in Minnesota homes** (462–481)

Tasoulla Hadjiyanni, Kristin Helle

- ▶ design theory; design research; interdisciplinarity; social design; user behavior

---

**DESIGN STUDIES, 30:3**

**MAY 2009**

ISSN: 0142-694X

[WEB LINK](#)

**Design: one, but in different forms** (187–223)

Willemien Visser

- ▶ cognitive design research; generic design; psychology of design; design activity; design cognition

**Shaping things: intended consumer response and the other determinants of product form** (224–254)

Nathan Crilly, James Moultrie and P. John Clarkson

- ▶ aesthetics; product design; styling; perception; user behaviour

**Global perspectives on structured research training in doctorates of design—what do we value?** (255–271)

Gavin Melles

- ▶ design education; design research; research training; doctorate; survey

**Teaching to understand the urban sensorium in the digital age: lessons from the studio** (272–286)

Rafael E. Pizarro

- ▶ urban design; design education; design methods; design tools; film

**The development and testing of a product personality scale** (287–302)

Ruth Mugge, Pascal C.M. Covers, Jan P.L. Schoormans

- ▶ aesthetics; design tools; product design; product personality; user behaviour

**Estimating design effort for the compressor design department: a case study at Pratt & Whitney Canada** (303–319)

Adil Salam, Nadia Bhuiyan, Gerard Jan Gouw, Syed Asif Raza

- ▶ engineering design, case study, modelling

---

**INFORMATION DESIGN JOURNAL, 17:1, 2009**

ISSN: 0142-5471

[WEB LINK](#)

**Integrated information systems: a professional field for information designers** (4–21)

Aaron Marcus

Continued p. 9 →

**The idX mission: information design exchange** (22–30)

Frank Cronk, Jill Dacey

**Using eye tracking technology to examine the effectiveness of design elements on news websites** (31–43)

Sauman Chu, Nora Paul and Laura Ruel

**An interview with Clay Spinuzzi** (44–51)

Saul Carliner

**Cross-cultural experiences: modelling observations - developing an international conference on information design** (53–56)

Andreas Schneider

**Signs and politics** (57–59)

Pierre Germain

**Research and Design Watch** (60–64)

**Computer- vs. paper-based tasks: Are they equivalent?**

Jim Curran

**Towards an account of intuitiveness**

Jim Curran

**Skittish skits and scanty silhouettes: the tribulations of gender in modern signage**

Aaron Marcus

**Otto Neurath's Isotype and the rhetoric of neutrality**

Aaron Marcus

**Keynote address by Meredith Davis**

Jill Dacey

**Design research and academic disciplines**

Jorge Frascara

**Inklings: From mind to page in research**

Jorge Frascara

**Book Reviews**

**Information design workbook: graphic approaches, solutions, and inspiration plus 30 case studies.** Kim Baer (65–67)

Gordon Akwera

**The language of the global polis.** Otto

Neurath (68–72)

Robin Kinross

**Lovely language.** Ed Annink, Max Bruinsma (68–72)

Robin Kinross

**Letters tell: listen before you start to design.** Jun Shinohara (73)

Keiichi Koyama

**The language of new media design: theory and practice.** Radan Martinec, Theo van

Leeuwen (74–75)

Kelley K. Gottschang

**Multimodality and genre: a foundation for the systematic analysis of multimodal documents.** John A. Bateman (76–77)

Patricia Wright

**Signage design manual.** Edo Smitshuijzen (78)

Regina Henze

**Designing interactions.** Bill Moggridge (79–80)

Lisa Ehrenstrasser

**INTERNATIONAL JOURNAL OF ART & DESIGN EDUCATION**

**28:2, JUNE 2009**

ISSN: 1476-8062

[WEB LINK](#)

**Creativity: delusions, realities, opportunities and challenges** (126–138)

John Steers

→ the background and provisions of the New Secondary Curriculum in England... opportunities for art and design

**Understanding young children's three-dimensional creative potential in art making** (139–150)

Victoria Pavlou

⌘ 5–6 year-olds' representational intentions in three-dimensional artworks...visual/design concepts and expressive use of media

**'I'd rather be seen as a practitioner, come in to teach my subject': identity work in part-time art and design tutors** (151–159)

Alison Shreeve

⌘ issues of identity as part-time tutors engage in teaching in further and higher education...based on a phenomenographic research approach that examines variation in experience

**Performance art at secondary level** (160–173)

Sheridan Horn

⌘ the far-reaching potential and the particular characteristics of performance art within the secondary art curriculum...the means by which an art department has incorporated it into their teaching curriculum...and the work of different performance artists in residence; details of their performances, methods and artistic intentions

**The artist-led pedagogic process in the contemporary art gallery: developing a meaning making framework** (174–182)

Emily Pringle

⌘ The pedagogic process instigated in the gallery resembles art practice in that artists seek to 'teach' skills including questioning and critical reflection and promote experiential learning.

Continued p. 10 →

### Critical perspectives on colonisation of the art curriculum in Korea (183–193)

Jeong-Ae Park

- The predominant Western aesthetic concepts and theories as central culture embodied in Korean art education as local culture...have been influential on policy-making in Korean art education.... Consequently, it has not served the issues of cultural diversity and pluralism that are so problematic in twenty-first century Korean society.

### The way they see it: an evaluation of the arts across the curriculum project (194–206)

Glen Coutts, Rebecca Soden, Liz Seagraves

- ⇒ an evaluation to interrogate the efficacy of a Scottish government sponsored initiative...Arts Across the Curriculum

### F. M. Courtis Collection: a window on teacher education at Bendigo, Australia (207–214)

Penelope Collet

- This article uses the European context to historically situate art collections in Australian teacher education institutions. The F.M. Courtis Collection at La Trobe University exemplifies how such teaching collections continue to contribute to teaching and learning today.

### The creation of the 'Hong Kong visual arts education web' and the use of the inquiry-based teaching approach (215–224)

Anita Ng Heung Sang

- ⇒ An example of using the 'Ill web' to teach public art is described to illustrate how the teacher and students used inquiry-based learning in art education

### Book reviews

**The richness of art education.** Howard Cannatella (225–225)

Richard Hickman

### Educating artists for the future, learning at the intersections of art, science technology and culture. Mel Alexenberg (ed.) (226–226)

Elena Cologni

### Canadian art/works: a resource for primary, junior, intermediate and senior teachers.

Fiona Blaikie (227–228)

Tom Hardy

### INTERNATIONAL JOURNAL OF TECHNOLOGY AND DESIGN EDUCATION

19:3 AUG. 2009

ISSN: 0957-7572

[WEB LINK](#)

### Technological literacy: a multiliteracies approach for democracy (237–254)

P. Williams

- ▶ technology—study & teaching; technical education; globalization; postmodernism; information technology; technological literacy; education; democracy; multiliteracy; technology education

### Creativity in technology education: providing children with glimpses of their inventive potential (255–268)

Theodore Lewis

- ▶ creative ability; technical education; technology; education—curricula; problem solving; inventions; cognitive ability; creative thinking; design & technology; analogical thinking; combination; creativity; inventiveness; metaphorical thinking

### Teaching science through designing technology (269–287)

Mai Sidawi

- ▶ science & the humanities; science—study & teaching; educational technology; students; concepts; technology; learning; teachers; design & technology; design; education; knowledge transfer; science; technology

### Robotics projects and learning concepts in science, technology and problem solving (289–307)

Moshe Barak, Yair Zadok

- ▶ robotics; problem solving; junior high school students; heuristic; technology; robots; science; rote learning; learning; problem solving projects

### Insights into the intrinsic and extrinsic challenges for implementing technology education: case studies of Queensland teachers (309–334)

Glenn Finger, Belinda Houguet

- ▶ teachers; technical education; educational technology; publications; teaching methods; learning; Queensland; Australia; design challenges; extrinsic challenges; implemented curriculum; intended curriculum; intrinsic challenges; received curriculum; technology education

### Jacques Ginestié, the cultural transmission of artefacts, skills and knowledge (335–340)

John Dakers

### Design and Technology: For the Next Generation. D. Barlex(ed.) (341–346)

Vicki Compton

### INTERNATIONAL JOURNAL OF TECHNOLOGY AND DESIGN EDUCATION

19:2 APR. 2009

ISSN: 0957

[WEB LINK](#)

### Conceptualisation of technology education within the paradigm of sustainable development (109–132)

Margarita Pavlova

Continued p. 11 →

**Toward sustainable practices in technology education** (133–147)

Leo Elshof

- ▶ educational technology; technology—attitudes; sustainable development; curricula; united states; study & teaching; environmental sustainability; sustainable practices; technology education

**Education for sustainable development: current discourses and practices and their relevance to technology education**

(149–165)

Walter Leal Filho, Evangelos Manolas, Paul Pace

- ▶ sustainable development; educational technology; education, secondary; transformative learning; best practice; study & teaching; curricula; sustainability—congresses; education for sustainable development; initiatives and practices; secondary and higher education; transformative pedagogies

**The social agenda of education for sustainable development within design & technology: the case of the Sustainable Design Award** (167–186)

James Pitt, Fred Lubben

- ▶ awards; teachers—training of; teacher development; curriculum planning; government policy; sustainable development; sustainable design; sustainability; study & teaching; continuous professional development; impact research; social dimension; sustainability

**Problem-solving in technology education as an approach to education for sustainable development** (187–197)

Howard Middleton

- ▶ problem solving; research; educational technology; sustainable development; education—research; sustainability; curricula; study & teaching; australia; curriculum; problem-solving; student learning; sustainability; technology education

**Educating for environmental sustainability and educating for creativity: actively compatible or missed opportunities?**

(199–219)

Kay Stables

- ▶ educational technology; sustainable development; research; curriculum planning; creative ability; design; environmental aspects; energy consumption; sustainability; creativity; environmental sustainability; technology education

**ASIT—a problem solving strategy for education and eco-friendly sustainable design** (221–235)

Steve Turner

- ▶ problem solving; research; biotic communities—research; sustainable development; educational technology; sustainable design; study & teaching; advanced systematic inventive thinking; eco-design; education for sustainable development; problem-solving strategies; the theory of the solution of inventive problems

**JOURNAL OF DESIGN HISTORY**

22:3, SEP. 2009

ISSN: 0952-4649

[WEB LINK](#)

**Jugendstil visions: occultism, gender and modern design pedagogy** (203–226)

Zeynep Çelik Alexander

- ▶ design education; Germany; Jugendstil; occultism; subjectivity; women's history

**Neurath, Arntz and ISOTYPE: the legacy in art, design and statistics** (227–242)

Wim Jansen

- ▶ Isotype; Otto Neurath; Gerd Arntz; Vienna; statistics

**Furniture, Feminism and the Feminine: Women Designers in Post-war Italy, 1945 to 1970** (243–257)

Catharine Rossi

- ⌘ continuing research into the existence, experience and representation of women designers and architects in post-war Italy

**Design in museums: towards an integrative approach: the potential of science and technology museums** (259–270)

Maddalena Dalla Mura

- ▶ design culture; design museums; exhibitions; museum studies; science and technology museums

**Review**

**New books on Le Corbusier** (271–284)

Tim Benton

- ⌘ eight recent books on Le Corbusier

**Grand designs: labour, empire & the museum in Victorian culture; interiors of empire: objects, space and identity within the Indian sub-continent, c.1800–1947.**

Lara Kreigel (285–286)

Deepika Ahlawat

**The essential art of African textiles: design without end.** Alisa LaGamma, Christine Giuntini (286–288)

Simon Clarke

**The design of everyday life.** Elizabeth Shove, Matthew Watson, Martin Hand, Jack Ingram (288–290)

Ben Highmore

**Transport design, a travel history • bright underground spaces: the London tube station architecture of Charles Holden.**

David Lawrence (290–291)

Alan Powers

**The modern interior.** Penny Sparke (291–292)

Lesley Hoskins

**The grid book.** Hannah B. Higgins (293–294)

Barry Curtis

Continued p. 12 →

**Game sound, an introduction to the history, theory, and practice of video game music and sound design.** Karen Collins (294–295)  
Andrew Blake

**JOURNAL OF ENGINEERING DESIGN**  
**20:4 2009**

ISSN: 0954-4828

[WEB LINK](#)

**Product-service system** (327–328)  
Rajkumar Roy, David Baxter

**Product-service system design methodology: from the PSS architecture design to the products specifications** (349–366)  
Nicolas Maussang, Peggy Zwolinski, Daniel Brissaud

- ▶ product management; engineering—specifications; engineering design; industrial arts; new products; research, industrial; functional and technical scenarios; PSS criteria; PSS engineering design methodology; PSS representation; technical detailed product criteria

**A CAD system for service innovation: integrated representation of function, service activity, and product behaviour** (367–388)

Tatsunori Hara, Tamio Arai, Yoshiki Shimomura

- ▶ computer-aided design; computer-aided engineering; specifications; industrialists; consumers; marketing; industrial management; computer-aided design; product design; product-service system; service blueprint; service design

**Developing a service knowledge reuse framework for engineering design** (389–411)

Athanasia Doultsinou, Rajkumar Roy, David Baxter, James Gao, Andy Mann

- ▶ product management; engineering design; industrial design; manufacturing industries; specifications; design requirements; product-service systems; service knowledge; technical services

**Service representation for capturing and reusing design knowledge in product and service families using object-oriented concepts and an ontology** (413–431)

SeungKi Moon, Timothy W Simpson, Jun Shu, Soundar R. T Kumara

- ▶ ontology; production engineering; new products; research; industrial; employees—workload; mass customization; knowledge capture and reuse; object-oriented concepts; service ontology

**JOURNAL OF ENGINEERING DESIGN**  
**20:3, 2009**

ISSN: 0954-4828

[WEB LINK](#)

**Set-based concept selection in multi-objective problems: optimality versus variability approach** (217–242)

Gideon Avigad, Amiram Moshaiov

- ▶ multiple criteria decision making; research; algorithms; decision making—mathematical models; decision making; engineering design; conceptual design; multi-criteria decision-making; multi-objective evolutionary algorithms; multi-objective optimisation; set-based measures

**Modelling and evaluation of product fitness for service life extension** (243–263)

Ke Xing, Lee Luong,

- ▶ service life (engineering); recycling (waste, etc.)—research; modularity (engineering); fuzzy logic; engineering design; fuzzy logic; modularity; remanufacture; reuse; service life extension

**Reflecting communication: a key factor for successful collaboration between embodiment design and simulation** (265–287)

A. M. Maier, M. Kreimeyer, U. Lindemann, P. J. Clarkson

- ▶ business communication; evaluation; new products; engineering design; management; research; computer-aided design, computer-aided engineering; design & construction

**A knowledge-based system for cost modelling of aircraft gas turbines** (289–305)

S. V. Tammineni, A. R. Rao, J. P. Scanlan, P. A. S. Reed, A. J. Keane

- ▶ aircraft gas-turbines; life cycle costing; engineering mathematic; mathematical optimization; research; rolls-royce engines; engineering analysis; lifecycle costing; optimisation techniques; whole life cost

**Flexibility: a multi-disciplinary literature review and a research agenda for designing flexible engineering systems** (307–323)

Joseph H. Saleh, Gregory Mark, Nicole C. Jordan

- ▶ flexible manufacturing systems; decision theory; engineering design; real options (finance); system design; design & construction; decision theory; design; flexibility; manufacturing systems; real options

**JOURNAL OF ENGINEERING DESIGN**  
**20:2, 2009**

ISSN: 0954-4828

[WEB LINK](#)

**Mapping the strategic objectives between new product development and product design in Taiwan's information industry** (105–124)

Yen Hsu

- ▶ new product development strategy; product design strategy; strategic group

**An innovative design method for compliant mechanisms combining structural optimisations and designer creativity** (5–154)

Masakazu Kobayashi, Shinji Nishiwaki, Kazuhiro Izui, Masataka Yoshimura

- ▶ optimal design; compliant mechanism; topology optimisation; shape optimisation; designer creativity; creative support system

Continued p. 13 →

**The risk in early design method (155–173)**

Katie Grantham Lough, Robert Stone, Irem Y. Tumer

- ▶ probabilistic risk assessment; conceptual design methodology; product design

**A gene-engineering-based design method for the innovation of manufactured products (175–193)**

Ke-Zhang Chen, Xin-An Feng

- ▶ gene engineering; product innovation; design theory and methodology

**A design recovery framework for mechanical components (195–215)**

R. Jill Urbanic, Waguih ElMaraghy

- ▶ reverse engineering; functional requirements; engineering design; design framework; systems analysis and design

**JOURNAL OF ENGINEERING DESIGN**  
**20:1, 2009**

ISSN: 0954-4828

[WEB LINK](#)

**Engineering design: perspectives, challenges, and recent advances (7–19)**

Shaofeng Liu, Iain M. Boyle

- ▶ design review; perspectives; challenges; recent advances

**A concurrent function deployment-based and concurrent engineering-based product development method for original design manufacturing companies (21–55)**

Ying-Chin Ho, Chih-Hsin Lin

- ▶ concurrent function deployment; original design manufacturing; concurrent engineering; product development method; request for quotation

**Development of a systematic classification and taxonomy of collaborative design activities (57–81)**

Karen J. Ostergaard, Joshua D. Summers

- ▶ collaborative design; classification of design; information; team; communication; distribution

**Automated synthesis of electromechanical design configurations from empirical analysis of function to form mapping (83–104)**

Tolga Kurtoglu, M. I. Campbell

- ▶ concept generation; functional synthesis; automated design; graph grammars; design reuse

**JOURNAL OF URBAN DESIGN, VOLUME**  
**14:2 2009**

ISSN:1357-4809

[WEBLINK](#)

**Civic concinnity(131–145)**

Mark C. Childs

- ➔ This paper outlines the importance of [the]...relationship between individual acts of design and the collective design of the city, and delineates components of a civic design process.

**Architects' places, users' places: place meanings at the new central bus station, Tel Aviv (147–161)**

Liron Amdur, Marina Epstein-Pliouchitch

- ➔ When architects interpret the meaning of places using different terms than...users, their ability to instill places with comprehensible meaning is hindered.

**An exploration of the effect of housing unit density on aspects of residential landscape sustainability in England (163–187)**

Carl Smith, Andy Clayden, Nigel Dunnett

- ▶ unsustainable loss of gardens, greenspace and tree cover [and]...the effect of housing density on these variables....Total greenspace cover need not decrease with densification....however, the quality of these spaces and their sustainable credentials were seen to be highly variable.

**Legibility and aesthetics in urban design (189–202)**

Nigel Taylor

- ⌘ a philosophical analysis of two central concepts and 'principles' of urban design, namely, 'legibility' and 'aesthetics', and then an argument about their respective importance for urban design

**Urban design as a frame for site readings of heritage landscapes: a case study of Champaner-Pavagadh, Gujarat, India (203–221)**

Amita Sinha, Yuthika Sharma

- ➔ an urban design approach drawing upon Kevin Lynch's concepts regarding representation of time in place and visual perception of urban form such that cultural heritage landscapes are experienced not as artefacts but as places

**Book Reviews**

**True Urbanism: Living In and Near the Center.** Mark L. Hinshaw (223–224)

Mark Childs

**Design and Landscape for People—New Approaches to Renewal.** Clare Cumberlidge, Lucy Musgrave (225–227)

Bob Jarvis

**Rethinking Urban Parks: Public Space and Cultural Diversity.** Seitha Low, Dana Taplin, Suzanne Scheld (227–229)

Talja Blokland

**Publics and the City.** Kurt Iveson (230–231)

Mahyar Arefi

**Designing Australia's Cities: Culture, Commerce and the City Beautiful, 1900–1930.** Robert Freestone (232–235)

Arnis Sikсна

# UPCOMING EVENTS

## DESIGN CONFERENCES WORLDWIDE

### ARTEMIS YAGOU

2009

30 Aug. - 1 Sep.

Oslo, Norway  
Nordic Design Research  
Conference, NORDES'09:  
Engaging Artefacts  
<http://www.nordes.org>

2-4 Sep.

London, UK  
Designs on eLearning 2009  
<http://www.designsonelearning.net/index.htm>

3-5 Sep.

Hatfield, UK  
Writing Design: Design History  
Society Annual Conference  
[http://sitem.herts.ac.uk/artdes\\_research/tvad/writingdesign.html](http://sitem.herts.ac.uk/artdes_research/tvad/writingdesign.html)

7-9 Sep.

London, UK  
Improving Student Learning  
for the 21st Century Learner  
<http://www.brookes.ac.uk/services/ocslid/isl/isl2009/callforpapers.html>

9 -10 Sep.

Wolverhampton, UK  
Retailing and Distribution  
History: A Conference to  
Mark 10 Years of CHORD  
<http://home.wlv.ac.uk/~in6086/2009conf.html>

10-11 Sep.

Brighton, UK  
Creating a Better World: The  
11th International Conference  
on Engineering and Product  
Design Education  
<http://www.epdeo9.org/>

17-18 Sep.

Plymouth, UK  
Making futures: The  
Crafts in the Context of  
Global Sustainability and  
Environmental Issues  
<http://makingfutures.pcad.ac.uk>

1-3 Oct.

Lisbon, Portugal  
IADE Anniversary Conference  
<http://www.iade.pt>

5-7 Oct.

Bloomington, IN USA  
ACM SIGDOC 2009  
<http://www.sigdoc.org/2009/>

12-16 October 2009

Istanbul, Turkey  
Revitalising Built  
Environments: Requalifying  
Old Places for New Uses  
<http://www.culturespace2009.org>

13-16 October 2009

Compiègne, France  
DPPI 2009: Designing  
Pleasurable Products  
and Interfaces  
<http://www.utc.fr/dppi09/>

19-22 October 2009

Seoul, South Korea  
IASDR 2009: Rigor and  
Relevance in Design  
<http://www.iasdr2009.org/>

26-27 October 2009

Taipei, Taiwan  
DeSForM 2009  
<http://www.desform.org>

12-13 November 2009

Lugano, Switzerland  
Swiss Design Network  
Symposium 2009: Multiple  
Ways to Design Research  
[www.multipleways09.ch](http://www.multipleways09.ch)

18-19 November 2009

Melbourne, Australia  
Cumulus 38° South  
[www.cumulus09.com](http://www.cumulus09.com)

24-25 November 2009

Helsinki, Finland  
The Art of Research: Processes,  
Results and Contributions  
<http://www.taik.fi/designresearch/AOR2009>

2-4 March 2010

Paris, France  
KEER2010: International  
Conference on Kansei  
Engineering and  
Emotion Research  
<http://www.keer2010.eu>

7-9 July 2010

Montreal, Canada  
DRS 2010 - Design  
and Complexity  
<http://www.drs2010.umontreal.ca/about.php>

---

## CURRENT SPECIAL INTEREST GROUPS OF THE DRS:

---

### Experiential Knowledge (EKSIG)

EKSIG is concerned with understanding the nature and role of knowledge in research and practice in order to clarify fundamental principles and practices of using practice in research.

### Design for Health and WellBeing

The SIG will focus on bringing together designers, design researchers, health professionals and others responsible for the delivery of health care services and products and 'less traditional' well being therapies.

### Emotion, Experience and Interaction

This SiG aims to bring individuals together from a range of disciplines and commercial areas with an interest in the ways that humans experience artefacts to help the design discipline to integrate and reconcile the variety of theoretical and methodological approaches to the subject.

### Design Pedagogy

The SIG aims to bring together design researchers, teachers and practitioners, and others responsible for the delivery of design education, to clarify and develop the role of design research in providing the theoretical underpinning for design education.

### Information:

<http://www.designresearchsociety.org>  
click on "special interest groups"

## MEMBERSHIP:

### DESIGN RESEARCH SOCIETY DESIGN RESEARCH QUARTERLY

The Design Research Society is the multi-disciplinary learned society for the design research community worldwide.

We have an international design research network in around 40 countries comprising members who maintain contact through our publications and activities.

Our members are from diverse backgrounds, not only from the traditional areas of design, ranging from expressive arts to engineering, but also from subjects like psychology and computer science.

#### We:

- ▶ Recognize design as a creative act common to many disciplines
- ▶ Understand research and its relationship with education and practice
- ▶ Advance the theory and practice of design
- ▶ Encourage the development of scholarship and knowledge in design
- ▶ Contribute to the development of doctoral education and research training
- ▶ Share knowledge across the boundaries of design disciplines
- ▶ Facilitate networks to exchange and communicate ideas, experience and research findings among members
- ▶ Disseminate research findings
- ▶ Promote awareness of design research
- ▶ Organise and sponsor conferences, and publish proceedings
- ▶ Encourage communications between members internationally
- ▶ Respond to consultative documents
- ▶ Collaborate with other bodies
- ▶ Lobby on behalf of members' research interests
- ▶ Recognise excellence in design research through awards
- ▶ Sponsor e-mail discussion groups and a monthly e-mailed newsletter: **DESIGN RESEARCH NEWS**
- ▶ Publish **DESIGN RESEARCH QUARTERLY** to members.

**FOR INFORMATION OR TO JOIN  
THE DESIGN RESEARCH SOCIETY  
ONLINE:**

[www.designresearchsociety.org](http://www.designresearchsociety.org)