

2017
eksig

DRS special interest group
on experiential knowledge



Mycelium Chair, by Eric Klarenbeek, uses straw as a 3d-printed growth medium and bio-plastic to contain the shape while mycelium fills out the form and provides the structural strength for the seat.

Alive . Active . Adaptive

Experiential Knowledge in Designing with Emerging Materials

International Conference 2017 of the DRS Special Interest Group on Experiential Knowledge

19-20 June 2017

Delft University of Technology, The Netherlands

Conference Organizers:

Elvin Karana, Elisa Giaccardi, Nithikul Nimkulrat, and Kristina Niedderer

Alive . Active . Adaptive is an International Conference organized under the DRS Special Interest Group on Experiential Knowledge (EKSIG). It focuses on the experiential knowledge of designing with emerging materials that are alive, active and adaptive, whether by means of biological or computational processes or an integration of the two. The conference brings together design practitioners, researchers, engineers, architects and artists to discuss the future of emerging materials and its implications for design research and practice.

Conference Theme

'Material' has been a central point of research and practice agendas for decades in design. In the field of art, Focillon (1934) and Dewey (1980) emphasized the unique role of **'material engagement'** in one's process of thinking and reflecting. Material engagement in craft is a means to logically think, learn and understand through sensing and immediate experience of materials (Ingold, 2013; Nimkulrat, 2012; Adamson, 2007). Through such *practical inquiries* one can understand the relationship between material, process and form (Niedderer, 2012).

In HCI, tinkering is an important part of interaction design processes concerned with crafting interactive artifacts **that blend physical and digital materials** (Zimmerman et al., 2007; Löwgren & Stolterman, 2004; Buxton, 2007; Holmquist, 2012; Sundström et al., 2010). Tinkering with materials is a way of **bringing material considerations early into the design process** (Giaccardi & Candy, 2009). It also has motivated designers to seek an expanded vocabulary to speak of the ways in which digital and physical materials come into relation (Wiberg, 2013), describe computational properties (Vallgård & Sokoler, 2010), and eliciting unique expressions through digital materials (Bergström et al., 2011; Isbister & Höök 2007; Löwgren, 2006; Tsaknaki et al., 2014).

When it comes to product design, many designers in the history of design have explored and engaged **the diverse texture and finishing possibilities of materials, alongside phenomenological considerations** on the merits of using particular materials for particular products (Manzini, 1986; Ashby and Johnson, 2002; Karana et al., 2014). Today we still see such an approach in some pioneer product design work: see for example the works of Tokujin Yoshioka (paper, glass), Piet Hein Eek (scrap wood), Paulo Ulian (marble), and Alberto Meda (carbon-fibre composites).

Over the last decade, we observe an ever-increasing interest in **creating and designing with new materials** (Karana et al., 2016; Rognoli et al., 2015; Wilkes et al., 2015). Suzanne Lee uses microbial cellulose composed of millions of tiny bacteria to produce clothing in her bathtub (<https://www.youtube.com/watch?v=WVW-jSdhILs>); Carol Colette, in 'This is Alive' (2013) (<http://thisisalive.com>), emphasizes that "*A quiet revolution is happening*", and invites us to imagine a world in which plants grow product, and bacteria is genetically reprogrammed. Maurizio Montalti, in the "The Future of Plastics" exhibition (2014), shares his vision about future mycelium-based plastic materials (<http://www.corpuscoli.com/projects/the-future-of-plastic/>). Anna Vallgård (2009) introduces the notion of 'computational composites', a new design space in which conventional materials (like wood) become more expressive and adaptable through computation. Without a doubt, the emergence of such new materials and approaches offers opportunity for achieving new material experiences. But as **materials acquire new agency and interactional possibilities** (whether algorithmic, biological or chemical), how do we design with such alive, active and adaptive materials? How do we mobilize the inherent properties of these materials in eliciting unique material experiences and ways of doing? And as **materials acquire connectivity (whether digital or organic)** and thus fluctuate within more fluid situations of use and needs, how do we understand the movements,

temporalities and relationships of a material in relation to other materials?

This calls for different skill sets, different way of understanding and mobilizing materials in design. It also requires proper forecasting, envisioning, as well as new ways of resourcefully addressing variety and ongoing change through new forms of openness in the materiality and functionality of designs.

In EKSIG Alive. Active. Adaptive Conference, we are interested in the experiential knowledge of designing with emerging materials that are alive, active, and adaptive. It is an interdisciplinary conference that encompasses how such materials are understood, designed and how they act as a medium in the creation of unique *material experiences* (Karana et al., 2015; Giaccardi and Karana, 2015).

We welcome a broad engagement with the field by inviting submissions from a diverse range of researchers and practitioners whose work is centralized around the following themes:

- Designerly ways of understanding alive, active, adaptive materials
- Frameworks, approaches, tools and methods to support designing (with) alive, active, and adaptive materials
- Interdisciplinary collaborations between different disciplines such as materials science and design in opening up new research spaces and design possibilities with alive, active, and adaptive materials
- Design explorations of future applications of alive, active, and adaptive materials
- Critical views on the future of emerging materials and its implications for design research and practice
- Design research on and reflective accounts of experience and practice with alive, active, and adaptive materials
- Implications of alive, active and adaptive materials on (materials) education in design

IMPORTANT DATES

31 May 2016: First Call

31 October 2016: Full submission due for Papers and Pictorials

31 January 2017: Notification of acceptance of Papers and Pictorials

28 February 2017: Submission of revised Papers and Pictorials

19-20 June 2017: Conference

SUBMISSIONS

We welcome submissions both in the format of Full Papers (max 5000 words) and Pictorials (max 2000 words), in which the visual component is at least as important as the textual. Contributions should be submitted before October 31st, 2016 through EasyChair system:

<https://easychair.org/conferences/?conf=eksig2017>

Please check Authors' guidelines on the webpage

<http://www.eksig2017.com/papers-and-pictorials/>

For your convenience, we also provide templates for submissions at the link

<http://www.eksig2017.com/templates/>

KEYNOTE SPEAKERS

<http://www.eksig2017.com/keynote-3/>

REGISTRATION FEES

<http://www.eksig2017.com/programme-1-1/>

deadline for Early Bird is March 31st, 2017.

Reduced fees will be allowed to students and DRS member.

Venue

EKSIG 2017 on Alive . Active . Adaptive will be held in the vibrant Het Nieuwe Instituut (Rotterdam, The Netherlands). The conference will be hosted by Delft University of Technology, the Faculty of Industrial Design Engineering.

Learn more about the venue:

<http://www.eksig2017.com/venue-1/>

<http://www.io.tudelft.nl>

<https://en.rotterdam.info/>

<http://hetnieuweinstituut.nl/>

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