SPIRE Research Summary 2008-2013

Sønderborg Participatory Innovation Research Centre

University of Southern Denmark

SPIRE Research Summary 2008-2013

Sønderborg Participatory Innovation Research Centre

University of Southern Denmark

Contents

Introduction

Over 5 years, SPIRE has encouraged cross-disciplinary collaboration to teach, research, discover, and develop insights for creating new forms of participatory innovation.

SPIRE was established as a research centre in 2008 with funding from the Danish Strategic Research Council. Funding was provided in response to the strong political focus in 2005 on 'user-driven innovation' as a vehicle to enhance competitiveness of Danish industry. In our research application 'The Participatory Dynamics of User-Driven Innovation' we proposed to investigate user innovation (how people innovate) and user-driven innovation (how companies innovate through collaboration with users). This would advance innovation theory and develop new methods for the integration of these theories into industrial practices. To achieve this we would combine the competencies of six university disciplines and a theatre group.

We coined the term Participatory Innovation to describe an approach that expands the notion of 'users', and that moves beyond proposing designs to suggesting sustainable change. We used 'participatory' to indicate that we firmly build on and develop the Scandinavian tradition of Participatory Design.

Our research is based on 16 innovation projects organised in collaboration with more than 30 industrial partners of four sizes: large international corporations, large Danish manufacturers, small and medium size enterprises, and small start-ups. These projects each took 0,5 – 3 years and many of them were completed with funding from the joint industry-university programme of user-driven innovation sponsored by The Danish Enterprise and Construction Authority. The total SPIRE budget over the five-year period comprised €4.7m in direct funding plus €3.4m in-kind co-financing from university and project partners.

SPIRE research is predominantly experimental: We combine action research and research-through-design with ethnographic studies, conversation analysis and case research.

The theatre group Dacapo engages in research in three roles: In making sense of user knowledge in project teams and companies, in facilitating cross-disciplinary exchange among researchers, and in disseminating research outcomes to broader audiences.

SPIRE is a physical research centre. In the political pendulum movements between preference for 'hot spots' or 'centres without walls', we chose the first option: to co-locate researchers in large, open research studios in Sønderborg in the new university building Alsion. In the peak periods the research studios housed 8 faculty, 6 postdocs, 8 PhD students and 10-15 graduate students. Other faculty members and PhD-students were located close by or visited regularly. To stimulate the cross-disciplinary collaboration, we started the centre with three concrete pilot projects with industrial partners, completed in mixed teams of researchers across faculties.

In this report we offer an overview of the contributions provided by SPIRE over the past 5 years. Most dominantly, we have substantiated the concept of Participatory Innovation as a practice with its own international conference and methods, we have drawn business model innovation into the realm of participatory action, and we have demonstrated how conversation analysis and complex responsive process theory can complement action research to substantiate claims on social processes of innovation.
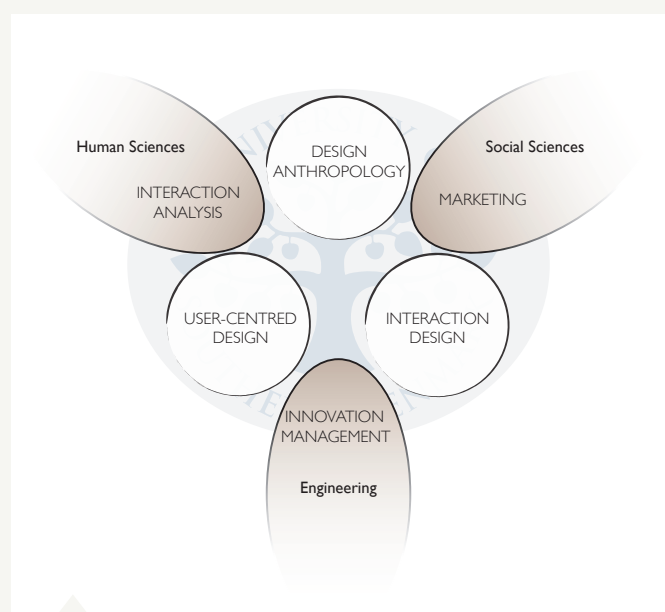
The six research disciplines brought together in Spire:
Three from the design field enhanced with researchers from Humanities, Social Sciences and Engineering.

For evaluation of success the Strategic Research Council addresses three criteria: Relevance, impact and scientific quality. In this report we will show that SPIRE's work is relevant in that it addresses fundamental challenges in industry with appropriate research competencies and methods. SPIRE's work has impact through achieving original knowledge

about innovation, through the number of postdocs, PhDs and graduates educated, and through the innovation stimulated with the many industry partners. Finally, SPIRE's scientific quality is warranted through the depth of empirical data and the international position of strength attained.

This report is structured as follows: The first six sections describe the main contributions of SPIRE in terms of theoretical insights and practices developed. Each section points to representative scientific papers for further reading. Then follow overviews of the practical organisation of the work, of the tools and resources developed, of the theatre activities, and of the academic production. At the end we include an outline of potential research directions for the future.
We are convinced that the political attention to user-driven in

novation with the combined strategic research and industry programmes during the 2000s has elevated Denmark to a clear position at the front of the research field, and that a substantial number of industries and organisations have built practices with strong traits of Participatory Innovation. We are proud to have made a contribution to this.
To acknowledge the results that SPIRE has achieved, the University of Southern Denmark has decided and committed substantially to continue this research as part of a larger design centre built on the SPIRE cross-disciplinary research model.
I would like to thank research colleagues for their willingness to move across boundaries, industry partners for openly engaging in research experiments, and the Strategic Research Council for making this research possible!

Jacob Buur, research director
Sønderborg, April 2013

How to read this report

As cross-disciplinary work is a core feature in SPIRE's activity we have indicated by colour which discipline the researchers belong to, when mentioned as authors or in reference lists. Thus, the more colorful, the broader the collaboration across disciplines! Naturally some researchers are difficult to categorize in this fashion, hopefully they will excuse the rash grouping.

As appendix we have included a set of key research articles that provider deeper insight in SPIRE research. In each section they are indicated by an asterix ★

For completion of this report we want to thank Maurice Nevile for ruthless editing and Suzanne Wensveen-Hania for graphics and layout.

Colour code of research disciplines:

- Design Anthropology
- Business
- Interaction Design
- Innovation Management
- User Centred Design
- Interaction Analysis
- Graduate students
- Dacapo Theatre
- Centre administration

In the project overview on page 16 we have roughly indicated the size of company partners:

- Small & medium sized (10 - 100 employees)
- Large companies (100 - 10.000 employees)
- Major corporations (more than 10.000 employees)

1 Ideals of Participatory Innovation

We think of participatory innovation as the advancement of innovation through the mutual involvement of a multitude of interacting stakeholders. One may think of participatory innovation as involving a deep commitment to democracy and democratisation – a commitment evident in how we attempt to assemble, grasp and encourage innovation processes as well as their ultimate results.

Participatory innovation values sense-making and perspective-giving across boundaries between individuals, groups, institutions, and cultures, as well as between scientific disciplines, paradigms and epistemologies. It has developed out of Participatory Design, the crucial difference between the two being participatory innovation's attention to a broader set of stakeholders, most significantly the organizational settings of stakeholders, and the conceptual notion that successful processes of innovation are antecedent to good design.

The legacy of Participatory Design

Participatory Design was born in 1970's Scandinavia in a highly charged political atmosphere during times of great change. With ever encroaching globalisation of capital and rapid advances in technology, particularly computerisation and automatisation, industry in Scandinavia was forced to adopt new technology to meet globalised capital and markets. And this meant a reduction in jobs and reappraisal of human capital. Participatory Design pointed out that human capital, in the guise of both workers and users of what workers produced, were as yet relatively untapped resources for creating value in such times (Kensing & Blomberg 1998; Gregory 2003). The way to tap these resources was to include workers and users as 'co-designers' in imagining the future. There were of course political ambitions as well; if the process was democratic than there was at least the hope that future products, services and society in general would remain democratic.

Although times today are not so politically charged and globalisation is close to being taken for granted, participatory innovation does carry forward much of the ideals of Participatory Design. There are two important differences however. First, we see participatory innovation as instigating participatory innovation within a much more complex ecology of stakeholders than Participatory Design. No longer is the issue simply to include workers and users, but all sorts of stakeholders along quite long and broad value-chains. One can say that participatory innovation increases democracy in that there are 'more voters', but at the same time realizes that this also implies more space for conflict and dissension. Secondly, and more conceptually, participatory innovation prioritises the interaction between stakeholders. Thus it is not so much the extra voters and their individual votes which contribute to innovation and ultimately a democratic future, but what happens in the relations between the stakeholders. We see participatory innovation as a facilitator to conversation rather than an arbiter of speaking rights.

"Not so much the extra voters but what happens between the stakeholders"

Given how we think about the ideals of participatory innovation, it would be inconsequential not to propose that participatory innovation's contribution to society is what it values, namely democracy and democratisation. But this is a very general, and perhaps uncontroversial, position for something which, at least at SPIRE, is practised within a publicly funded institution. More specifically and concretely, we see the manifestation of participatory innovation's ideals in how we facilitate democratic conversations by particular interactive methods, and the sorts of projects we become involved in.

A democratic conversation

For SPIRE, facilitating democratic conversation implies a particular understanding of social interaction, one that accepts, even encourages, conflict and dissension as necessary elements of participatory democracy and thereby of good innovation practice (Buur & Matthews 2008; Buur & Larsen 2010). Social interactive processes may tend to steer towards harmony by reducing complexity and avoiding conflict.

Tangible objects can provoke curiosity unexpected reactions from other participants.

In SPIRE activities we attempt to counteract this in order to facilitate innovation by embracing conflict as an opportunity

to gain deeper understanding across and amongst stakeholders. SPIRE research is similarly driven by disciplinary couplings and intensive industry collaborations as novelty often emerges in the conflicting intersection between theory and practice. Working at this intersection is then exemplary both for SPIRE research activities and active project work where we engage with other disciplines and practitioners in summer schools, seminars, conferences and workshops in which activities involving innovation games, improvisation theatre, provotypes and other material artifacts are put to work in order to understand how use, rules and meaning are destroyed and created across boundaries.

A central hallmark of SPIRE's methods is a playful approach – often using physical artifacts – to actively involve people through creating shared experiences that are real enough to matter and to relate to, while unreal and fun enough to dare participation and the risk of surprises (Sproedt & Boer 2011). This was the topic of Sproedt's PhD research (2012). By developing boardgames mirroring real-life dilemmas, he showed how researchers and participants get involved on a personal level and thus take experiences as serious sources for reflection and analysis. Such innovation games, which typically address specific relational aspects of multi-stakeholder interaction, e.g. trust or communication, have a high appeal to both industrialists and students.

Playing games that aim to build something together naturally leads to negotiation of meaning and trust without the risk of failing – just play again.

As we consider conflict as a resource for participatory innovation, our methods aim to encourage fruitful conflict. They often do so by creating shared experiences of curiosity and surprise – typically triggered by tangible, aesthetic provocations

It is perhaps straightforward to illustrate SPIRE's commitment to participatory innovation's ideals by way of its methods. They are, in a word, participatory and thereby potentially democratic. It is less straightforward to make the same claim with regard to the actual innovation projects within which SPIRE has driven its participatory innovation line. It is clear, nonetheless, that the bulk of these projects have been for what most would recognise as 'good causes'. Projects on designing sustainable indoor climate, energy sustaining mine sweeping and pre-commercial procurement of innovation exemplify this. It should be noted, however, that Spire's focus is on the processes instigated through its methods within projects, both for research as well as project specific goals. Thus process weighs more than project with regard to assessing SPIRE's commitment to participatory innovation ideals.

References

Buur, J. & Larsen, H. (2010) The Quality of Conversations in Participatory Innovation. *CoDesign*, 6(3) 121-138.

* Buur, J. & Matthews, B. (2008) Participatory Innovation. *International Journal of Innovation Management*, 12(3) 255 - 273.

Gregory, J. (2003) Scandinavian approach to participatory design. *International Journal of Engineering Education*, 19 (1) 62–74.

Kensing, F. & Blomberg, J. (1998) Participatory design: issues and concerns. *Computer Supported Cooperative Work* (CSCW), 7 (3/4) 167–185.

Matthews, B. & Heinemann, T. (2012) Analysing conversation: studying design as social action. *Design Studies* 33(6) 649-672.

* Sproedt, H. & Boer, L. (2011) Grasping social dynamics of participatory innovation: A case of playing a game. In: *Proceedings of the 12th International CINet Conference*, Århus, Denmark, 953-969.

PhD Dissertation

Sproedt, H. (2012) *Play, Learn, Innovate. Grasping the Social Dynamics of Participatory Innovation*. PhD Dissertation, Mads Clausen Institute, University of Southern Denmark.

Henrik Sproedt PhD MSc
Assistant Professor - Participatory Innovation
Mads Clausen Institute, SDU

Dennis Day PhD, MA
Associate Professor - Interaction Analysis
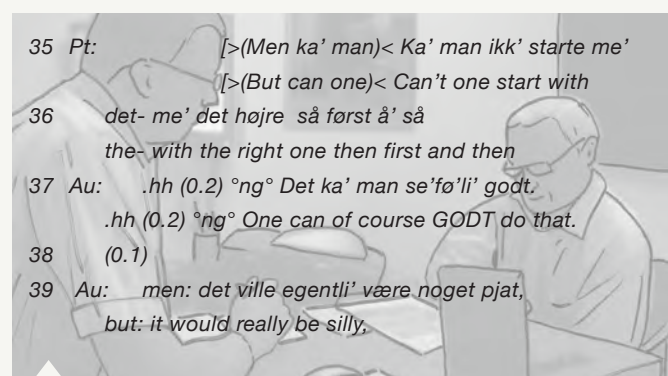Department of Language and Communication, SDU

2 Aesthetics of Participation

SPIRE's concept of 'aesthetics of participation' is distinct in that it takes the perspective of the participants themselves at all times, so that the principles identified are emic, rather than theoretical constructs. We suggest that participation can and should be beautiful.

SPIRE's understanding of the aesthetics of participation extends the concept of pragmatist aesthetics (Ross & Wensveen 2010) and can be condensed into four guiding principles :

Participation has social and ethical dimensions

The situated values and social relations of people and organisations are apparent in, and consequential for participation. This means that participation is shaped by both external and internal relevancies of how participants relate to each other and why. This is particularly well illustrated in an initial pilot-project within SPIRE, Hearing in Transition (HiNT), where the social and ethical dimensions were transparent at all levels of participation. On the user-level, SPIRE's studies of audiological consultations clearly demonstrate that the situated social roles and relations established between hearing aid users and audiologists affect how well hearing aid users can participate and take an active role in their own treatment (Brouwer & Day 2012; Heinemann et al. 2012[a]) and that the design of hearing aid technology can in fact exacerbate this problem (Matthews & Heinemann 2009). This in turn raises ethical issues for participation at the organisational level: for hearing aid companies, the end-user is the audiologist, rather than the hearing aid user; product development focuses on how to support the audiologist's work, which ultimately aims at selling or prescribing hearing aids.

```
35  Pt:       [>(Men ka' man)< Ka' man ikk' starte me'
              [>(But can one)< Can't one start with
36      det- me' det højre  så først å' så
        the- with the right one then first and then
37  Au:    .hh (0.2) °ng° Det ka' man se'fø'li' godt.
           .hh (0.2) °ng° One can of course GODT do that.
38      (0.1)
39  Au:    men: det ville egentli' være noget pjat,
           but: it would really be silly,
```

The study of audiology consultations reveals ethical and social dimensions of participation both at the user level and the organisational level.

Practically, this means that a particularly interesting group of hearing aid users to include are "pre-users", i.e. people who are yet to realise their need for a hearing aid (Kelly & Mat-

thews 2010), something which requires specific sensitivity to social and ethical issues. The industrial PhD projects by Kelly and Storgård focus on how to best engage such pre-users, for instance with tools such as "critical artefacts".

Participation involves participants' bodily, cognitive, emotional, and social skills

How people position and move themselves around in a room relative to each other, the way in which they use objects in the surround, how they are provoked emotionally and how they are able to express themselves and navigate in the social world, are all integral aspects of participation. More successful participation can be achieved by actively supporting the participants' skills. The importance of doing so is evident throughout SPIRE's activities, where the participatory workshops conducted in various projects are explicitly designed to support participants' skills: In the 'Strong Hand' project aimed at developing a mechanical glove to support sufferers from arthritis in their everyday life, for instance, designing for a particular context requires a thorough understanding and experience of that context. This was acquired by engaging the participants' bodily, emotional, cognitive and social skills at the same time through a set of workshops.

Participants imitate embodied skills to experience why an arthritis patient (right side) has difficulties using an ordinary can-opener.

SPIRE research focuses on developing this principle further, by investigating how different resources actually support these skills and how participants use these resources. Donovan et al. (2011), for instance, show that participants enlist resources to index shared experiences between participants and to pre-empt upcoming troubles, this ensuring a more equal distribution of participation than had these different resources not been available.

Participation has satisfying dynamic form

Participation builds on interaction and as such consists of a number of (social) actions that are incremental, each action

relying on and relating to prior actions, whilst simultaneously shaping the following actions. The dynamics of progressivity within actions and activities and the transition between actions and activities thus becomes consequential for participation. This is apparent for instance in the De-Mining project, in which the incremental nature of participation was not respected, ultimately leading to the project being more or less abandoned, due to its (for all participants) unsatisfactory dynamics and lack of progression, both within and across single activities.

A participant arriving late to a project workshop interrupts the dynamic flow as other participants need to bring her up to speed.

That the dynamics of participation are of great importance to the participants themselves is evident across a range of SPIRE projects, as illustrated by Heinemann et al. (2012[b]) who demonstrate that progressivity and transition between activities is frequently of more importance to the participants themselves than whether and how each of them participates in and contributes to collaborative activities.

Participation has practical use next to intrinsic value

Individual actions and activities are valuable by themselves, but must also have practical use and value as part of a larger scope of activities and in relation to the intended goal of these activities. The outcome of a single participatory workshop or activity must expand beyond the boundaries of its own occurrence. This principle is very evident in the PhD project conducted by Horst (2011) on rapid on-line prototyping with stakeholders. Horst demonstrated that rapid on-line prototyping has intrinsic value because it allows participants to adjust the prototype incrementally and thus try out their own ideas and suggestions immediately. Because the prototype is created and owned simultaneously by different stakeholders, who can recognise their own contribution to the prototype at later stages of the process, the prototype consequently consti-

tutes a valuable boundary object of practical use, expanding beyond the individual activities in which it is used. The rapid on-line prototyping thus "not only directly triggers cross-disciplinary collaboration and facilitates work across different boundaries but moreover provides the basic infrastructural support of collaboration, thereby addressing the different roles of objects in cross-disciplinary collaboration." (Bogers & Horst forthcoming).

"Participation can and should be beautiful"

SPIRE's four principles of the aesthetics of participation outline aspects of participation that are important to consider when organising activities for different stakeholders, in design as well as in innovation. Whilst the four principles defined above do not in and by themselves provide final checklists or tools for how to ensure the most successful participation between people from different backgrounds, they do serve as guidelines for identifying which factors to consider in organizing participation – and perhaps just as importantly when reflecting back over the progress of a project, whether it was successful or not.

References

Ross, P.R. & Wensveen, S.A.G. (2010). Designing behavior in interaction: using aesthetic experience as a mechanism for design. *International Journal of Design*, 4(2), 3-13

Bogers, M. & Horst, W. (forth) Collaborative prototyping: Cross-fertilization of knowledge in prototype-driven problem solving, *Journal of Product Innovation Management*.

Brouwer, C. & Day, D. (2012) WHO/ICF guidelines and compliance in a hearing aid consultation. In Egbert, M. & Deppermann, A. (eds.) *Hearing aids communication. Integrating social interaction, audiology and user centered design to improve hearing technology use*. Mannheim: Verlag für Gesprächsforschung, 125-137.

Donovan, J., Heinemann, T., Matthews, B. & Buur, J. (2011) Getting the point: The role of gesture in managing intersubjectivity in a design activity, *Artificial Intelligence for Engineering Design, Analysis and Manufacturing* 25, 221-235.

* Heinemann T., Landgrebe, J. & Matthews, B. (2012[b]) Collaborating to restrict: A Conversation Analytic perspective on collaboration in design, *CoDesign* 8:4, 200-214.

Heinemann T., Matthews, B. & Raudaskoski, P. (2012[a]) Communicative aspects of audiological consultations. In Egbert, M. & Deppermann, A. (eds.) *Hearing aids communication. Integrating social interaction, audiology and user centered design to improve hearing technology use*. Mannheim: Verlag für Gesprächsforschung, 113-124.

Kelly, J. & Matthews, B. (2010). Taking transition into account: designing with pre-users of medical devices. In: *Proceedings of the 11th Biennial Participatory Design Conference (PDC 2010)*. Sydney, Australia: ACM s. 71-80.

Matthews, B. & Heinemann T. (2009) Technology use and patient participation in audiological consultations, *Australasian Medical Journal* 1 (10), 36-43.

PhD Dissertations

Kelly, J. (forthcoming) *Waiting for Title*. Industrial PhD Dissertation, Novo Nordisk and Mads Clausen Institute, University of Southern Denmark

Storgaard, D. (forthcoming) *Practices of Treatability. A design anthropological study of pre-users of medical devices*. Industrial PhD Dissertation, Oticon and Institute for Design and Communication, University of Southern Denmark

Stephan Wensveen PhD MSc
Associate Professor - Interaction Design
Mads Clausen Institute, SDU

Trine Heinemann PhD, M phil
Associate Professor - Interaction Analysis
Department of Design and Communication, SDU

3 Values Inhere in Action

For SPIRE, 'value' is not a phenomenon; rather, values are multifarious phenomena, emergent in people's ordinary understandings and actions.

SPIRE has developed a distinct conception of 'value' that differs from other disciplines, such as design, or business fields of management and consumer behaviour. Design sees value as a commodity that designers can bring into being in the creation and deployment of new products and systems that 'add value' to users' lives in and through the new possibilities they afford. Business treats value as a relatively stable personal attribute of the consumer. In contrast, SPIRE understands values as heterogeneous characteristics of people's mundane practices and patterns of action, and simultaneously as a lay concept, which has various practical uses in discourse.

SPIRE's conception of value is evident in several core activities. For example, Larsen (2010) considered value for interaction design. The locus for her research was the family kitchen. Drawing upon cases of everyday kitchen activities, Larsen's analyses showed that values are relational and situated in a web of practices. Peoples' relations with kitchen technologies thus were seen to be ever changing, embodied and negotiated through (inter) action(s). Larsen's main contribution was to posit a perspective for interaction design focusing on: a) an expanded value notion of *values-in-action* for Interaction Design b) suggestions for tangible user kitchen interfaces c) implications for the design process. Building upon Larsen's research, Jafarri (2012) considered everyday

energy consumption practices in relation to the use of indoor climate technologies. She focused on multidisciplinary collaborations (engineering, industrial design and end users), across different sites (homes, workplaces, kindergartens). Her analyses, informed by practice theory, pointed to complexity as the lay notion of sustainability. This research showed that competing and contradictory consumption practices coexist within family, work and educational settings. The significance of this research lies in the design of methods for engaging users, designers and researchers in collaborative ethnographic inquiries towards designing sustainable indoor climate.

Value is created in action

In the SPIRE book 'Design and Anthropology' Gunn and Donovan propose that people do not always have the concept tools to articulate relationships, transaction, values and tensions in their everyday practices. They argue that collaborative engagement in design anthropology requires developing anthropological capacities in people in order to reframe relations between the designer and user, researcher and designer, company and customer, and offer people already involved in practice(s) different ways of understanding what they know and do. The concept of the user-cum-producer recasts assumptions about the defining moments of design and modes of production (Gunn & Donovan 2012).

Value as an interdisciplinary bridge

Other research proposes values-in-action as a way to bridge

Children in kindergarten form values regarding indoor climate through active engagement in organising the daily routines of airing etc..

disciplinary differences between design and business. Larsen (2008) uses three concrete cases of family stories of interacting with kitchen technologies to explore the innovation po-

> **"V**alues are ... emergent in people's ordinary understandings and actions"

tential of understanding end-user values for design practice. She questions if interaction design brings added value or constructed value in shaping social technical relations. Underpinning this research was a concern to make user values present throughout an interaction design process.

Values are tools for action in talk

Matthews & Heinemann (2012) discuss how designers employ a concept of 'user value' in arguments for and against particular user-interface options. They analyse data of designers negotiating elements of a user interface for purchasing time on a parking meter through a mobile phone. They contrast designers' practical deployment of 'user value' to theoretical and disciplinary treatments of that concept.

Practices make values explicit

Jaffari & Matthews (2013, in press) unpack the complexity of everyday practices of product use and consumption by showing how actual practices are embedded within, and partly determined by, an ecology of elements, including architecture, habit, sequence and the presence of other (often unrelated) products. They challenge ideas of design intent and intended use, showing that people appropriate everyday products within mundane (but for design *subversive*) agendas and familial routines. Their argument problematizes ideas of products 'adding value' to users' lives, and conversely, the existence of stable consumer values as personal preferences.

New avenues for design and innovation

Empirically the theme investigates how everyday practices of use implicate, and make explicit, people's values. Values can be revealed through people's practices, they can be ascribed and avowed in conversation, and they can be a discursive resource that serves local pragmatic ends. These various manifestations can contradict one another; indeed, in the course of SPIRE's studies some participants self-identified tensions between their espoused values and their actual practices. *Methodologically* SPIRE researchers studied how values inhere

in action in terms of practices, patterns of action, and lay conceptions. *Theoretically*, this work has advanced a notion of value that is dynamic, contingent, and multifarious. That is, 'value' is not a phenomenon, but a set of distinct phenomena. *Practically*, this research opens up several avenues for design and innovation. Jaffari & Matthews (2012) have proposed 'aiming to miss' scenarios as a means of encouraging designers to work with the relations between settings, routines and ecologies of artefacts that are encountered through use. In this way design might explore different kinds of action possibilities through which values are uncovered within users' (actual and imagined) practices. Designing can be a tool for participants to reflect on their own values and practices (Jaffari & Matthews 2009, Boer & Donovan 2012). The theme 'values inhere in action' has been productive in reconceptualising concepts such as 'comfort' in indoor climate discourse (see Jaffari 2009), and 'user' in user-centred and participatory design (see Kelly & Matthews 2010).

References

Boer, L. & Donovan, J. (2012) Provotypes for participatory innovation, in *Proceedings Designing Interactive Systems Conference (DIS 2012)*, Newcastle Upon Tyne, United Kingdom, June 11–15, 388–397.

* Gunn, W. & Donovan, J. (Eds) (2012) *Design and Anthropology. Anthropological Studies of Creativity and Perception*. Farnham, Surrey: Ashgate.

Jaffari, S. (2009) Re-constructing the comfort zone, *Journal of Green Building*, 4(4), 134-147.

Jaffari, S. & Matthews, B. (2009) From occupying to inhabiting: A change in conceptualising comfort, Beyond Kyoto: Addressing the Challenges of Climate, *IOP Conference Series: Earth and Environmental Science*, 8(1): 1-14.

Jaffari, S. & Matthews, B. (2013) (in press). Aiming to miss: lessons for design research from the study of everyday energy practices, *Journal of Design Research*.

Kelly, J. & Matthews, B. (2010) Taking transition into account: designing with pre-users of medical devices. *Proceedings of the 11th Biannual Participatory Design Conference (PDC 2010)*, Sydney, Australia, November 2010, 71-80.

Larsen, M. M. (2008). Designing for context. Values-in-action to bridge design and business. *Proceedings of the 6th Conference on Design and Emotion*. Hong Kong.

Matthews, B. & Heinemann, T. (2012) Analysing conversation: studying design as social action, *Design Studies*, 33(6) 649-672.

PhD Dissertations

Larsen, M.M. (2010) *User Values in Interaction Design: A Cross-Disciplinary Exploration of Everyday Kitchen Practice.* PhD dissertation, Mads Clausen Institute, University of Southern Denmark.

Jaffari, S. (2012) *Everyday Comfort Practices: A Design Ethnographic Approach to Sustainable Indoor Climate and Technology,* PhD dissertation, Mads Clausen Institute, University of Southern Denmark.

Ben Matthews PhD MSc
Senior Lecturer - Design Studies
School of IT and Electrical Eng, University of Queensland

Wendy Gunn PhD MA
Associate Professor - Design Anthropology
Mads Clausen Institute, SDU

4 Innovation is Socially Shaped

Innovation is socially shaped and constructed by the people involved, rather than the result of one singular idea fostered by an ingenious individual. SPIRE has come to understand innovation as a change in the practice of a larger group of people, in the light of emerging new meaning (Fonseca 2002).

The concept 'Social Shaping of Innovation' was developed in collaboration with the American company Pitney Bowes. Although the company had strong insight about users, user innovation remained 'undeveloped' within the company. In a series of workshops at the company (2009 – 2010), a PhD Summerschool (2011) and a three-week study visit at the company (2011), four propositions were developed (Mack et al. 2013). They serve as a framework to explore why some ideas develop into innovation and others do not.

Ideas develop with people

In their interactions people continuously respond to each other, over time establishing themes and at the same time endlessly refining, changing, deconstructing and embellishing topics, ideas and concepts. New themes in conversation may become innovation in the making, but the ideas involved need to be topicalized in other influential interactions as well, for instance between R&D and marketing, and between R&D and management. These meetings will challenge and redefine the ideas.

The *quality of conversations* (Buur & Larsen 2010) becomes critical for understanding why some interactions lead to emergence of new meaning, and why often they don't. Matthews & Heinemann (2012) analyse conversation to examine design as social action. They describe how participants interacting in workshops are bound by a preference for agreement and progressivity, which means that rather than trying to negotiate conflicting themes, such situations are quickly closed down so the participants can move on to the next stage of their mutual activity. This means that the novelty that might emerge from conflicts and differences might have difficulties surviving. Conversation can create and refine ideas, but might as well dilute them in joint agreement.

Conflict seen as a driving force of change is a well known perspective in the earlier literature of Participatory Design in which the design process is seen as political, including conflicts at almost every step. This view has been less articulated in more recent literature. In the move from participatory design to participatory innovation we have come to see conflict as key to innovation. We see novelty as emerging in the local interaction between people, in 'the politics of everyday life' (Stacey et al. 2000).

Based on theatre event research Buur & Larsen (2011) describe innovation as a result of negotiation of *crossing intentions*, and conclude, that new themes emerge if crossing intentions resonate with participants' own experience and if there is a spontaneity that allows participants to imagine new roles (e.g. working live, Shaw & Stacey 2005). Consequently, it is important to understand what enables such spontaneity in the ongoing interaction and what makes it difficult.

"We see novelty as emerging in the local interaction between people"

In a three-year project that aimed at developing an assistive tool for patients with arthritis, the "Strong Hand", we have seen how the interdependencies and differences between the many involved stakeholders constrain and enable the particular development of the final product (Gottlieb et al., 2013)
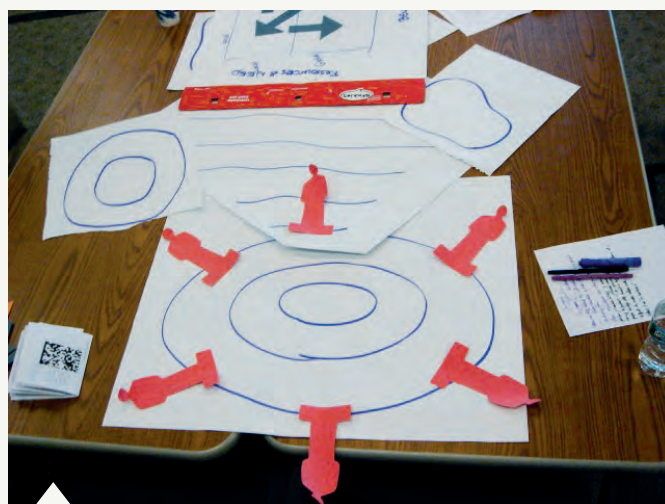
Like the fireman's net, ideas need the support of many people. From a Pitney Bowes workshop.

Ideas resonate with contexts

Interactions between people unfold in different organisational environments. As an example, people in R&D and in marketing departments usually differ significantly in their focus and in their perception of the time-frame for new ideas. Consequently, ideas developed in one environment do not travel easily into other environments. SPIRE has observed that in contexts where people meet across their usual local environments the participants vary their level of engagement. When ideas are introduced to other local contexts, e.g. from R&D to marketing, user groups or management, they may be re-negotiated and transformed or simply rejected (Bogers & Larsen 2011).

Ideas move with power

The local conversations in which ideas are negotiated are at the same time processes of inclusion and exclusion, with negotiations of power, ownership and trust. Bogers & Larsen (2011) and Sproedt & Larsen (2012) reflect how such negotiations, which (often overtly and covertly) set the scene for who is being involved in meetings in companies and also influence the emergence of meaning. In these studies it is noticed that ideas from R&D people, when rejected from influential groups in sales and marketing, may survive in other disguises 'below the radar.' As the result some people might experience a significant loss in motivation .

Support from influential stakeholders such as top management is important, but the processes that lead to this are complex. One cannot require 'top management support first', because also top managers are dependent on people in other positions. Like everyone else they are immersed in local interactions and contexts, in which they create their ideas and opinions. In the processes of innovation a multiplicity of stakeholders are involved, and they will all exert their influence. SPIRE has seen the need to develop methods to invite such interactions and influences (Buur & Larsen 2010).

Ideas thrive in multiple formats

As facilitators we have experienced that the format in which the interaction takes place is crucial. The larger and the more complex the contingents of stakeholder is, the more important supportive formats seem. Changing the format can challenge the prevailing patterns of interaction. New formats may elicit new themes and ideas, and may serve as invitations between people who don't usually meet with each other, such as users and developers.

Because ideas develop with people in their interactions, SPIRE has explored methods that scaffold such ongoing interactions — to allow participants to share perspectives, and to move forward in mutual improvisation. We utilise a variety of formats: prototypes, provotypes, video, paper, pictures, games and theatre all enable development of ideas across boundaries of different disciplines and businesses.

The longer term effects of changing formats at shorter events such as workshops are not well researched. We have seen significant changes recognised among the involved as induced by a shorter theatre workshop years earlier (Larsen 2011).

Also in the "Strong Hand" project we can recognise an impact of working with multiple formats on the development of the prototypes towards the final product.

Laurens Boer (2012) in his PhD research developed a particular type of objects, *provotypes*, which are designed with the aim of creating conversation, and in particular to encourage questioning the taken for granted perceptions among users or within organizations. We see this as a powerful way of stimulating the quality of conversation.

Inspiring pictures of 'difficult situations' for arthritis patients provide distance which makes it easier for users and designers to talk.

References

* Buur, J. & Larsen, H. (2010) The Quality of Conversations in Participatory Innovation. In: *CoDesign: International Journal of CoCreation in Design and the Arts*, 6 (3) 121-138.

Bogers, M. & Larsen, H. (2012) The Role of Improvisation in Processes of Innovation. In: *Digital proceedings of the 2nd Participatory Innovation Conference (PIN-C '12)*, Melbourne, Australia.

Fonseca, J. (2002) *Complexity and Innovation in Organizations*. London, Routledge

Gottlieb, F., Larsen, H. & Sørensen, V. (2013). Multi stakeholder innovation. In: *Proceedings of the 3rd Participatory Innovation Conference (PIN-C 2013)*. Lahti, Finland.

* Matthews, B. & Heinemann, T. (2012). Analysing conversation: studying design as social action. *Design Studies 33(6)*. 649-672.

Larsen, H. (2011). Improvisational theatre, in Baungaard Rasmussen, L. (Ed.), *Facilitating change, User Interactive Methods in organizations, communities and networks*. Polyteknisk Forlag, Lyngby. 327-354.

Shaw, P. and R. Stacey, Eds. (2005). *Experiencing Risk, Spontaneity and Improvisation in Organizational Change; Working Live.* London, Routledge.

Sproedt, H. & Larsen, H. (2012) Social Shaping of Innovation – The practice of dealing with paradox, and conflict, In: *Proceedings of the 13th CINet conference*, Rome. 1003-1012.

Stacey, R; Griffin, D & Shaw, P. (2000) *Complexity and management: fad or radical challenge to systems thinking?* London, Routledge.

PhD Dissertation

Boer, L. (2012) How Provotypes Challenge Stakeholder Conceptions in Innovation Projects. PhD Dissertation, Mads Clausen Institute, University of Southern Denmark

Johannes Wagner dr.phil, MA
Professor - Interaction Analysis
Department of Design and Communication, SDU

Henry Larsen PhD, MSc
Professor - Participatory Innovation
Mads Clausen Institute, SDU

To accept that innovation is socially shaped poses a serious challenge to management: Can one manage emergent processes? Research at SPIRE has addressed how multi-stakeholder collaboration can be facilitated. These processes best run through informal and improvised interactions, in which managers can only set out directions rather than try to control who speaks to whom about what. And even such directions will be slightly transformed as the process unfolds.

The traditional view that innovation as a problem-solving process relies on many incremental cycles of trial and error, to enable unsticking the relevant knowledge held by various stakeholders (von Hippel 2005) operates with a notion that such knowledge flows can be controlled. With companies banking on open innovation (Chesbrough 2003), the notion of control is coming under increasing strain, as the number of 'uncontrollable' external stakeholders that can serve as important sources of innovation increases (West & Bogers forthcoming).
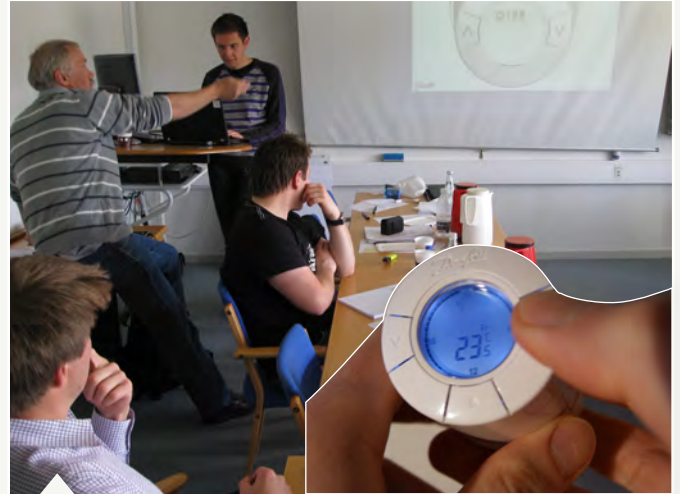
Enabling cross-fertilisation

Research at SPIRE has found that improvisation and innovation at large are fundamentally collective efforts in which multiple stakeholders need to work together in developing new products, services, processes or business models (Buur & Matthews 2008; Buur et al. 2013; Pedrosa 2009). These stakeholders may be within the organisation, such as in R&D, marketing or production, or they may be from outside, such as external consultants, universities or users (Bogerset al. 2010; Bogers & West 2012). We have shown that bringing together these various stakeholders helps to confront the opportunities and challenges of the innovation processes by allowing for very quick interactions between stakeholders, leading to a cross-fertilisation of knowledge that effectively brings together various perspectives. Below, we further illustrate this by means of three "boundary objects", namely a collaborative prototype, a playful game, and theatre intervention.

Collaborative prototyping

Bogers & Horst (forthcoming) present the findings from an action research study at Danfoss Heating Solutions. The case shows that inviting people from various departments and hierarchical levels, as well as external stakeholders to participate in a collective prototyping process leads to a much better understanding of the different perspectives as well as to more ownership of the final design. The improvisational nature of

innovation is highlighted by the usefulness of this collaborative prototyping as a way to drive the product specifications and design parameters, which was also enabled by the use of a tangible object and the related rapid problem-solving cycles.

Stakeholder involvement in collaborative prototyping enables cross-fertilisation of knowledge.

A playful game

Bogers & Sproedt (2012) discuss an education experiment in the Innovation and Business Master programme. The study analyses how playing a game enables students to understand both theoretical concepts and relevant practices in collaborative work. The results show how groups of students can collaborative and participate in activities that are both collaborative and competitive at the same time by relying on physical interaction, social capital, power and motivation. The reults also highlight that collaboration may involve risk and cost, which may be detrimental for ultimate performance.

> **"Managers ... should not control but rather embrace uncertainty and autonomy"**

Theatre intervention

Have (2010, 2011) reflects on his practical experiences as a consultant working with actors in collaborative innovation processes. Introducing incomplete theatre scenarios as levers for connecting stakeholders' different intentions within a given innovation theme, invites improvisation to emerge in relations between people. Bogers & Larsen (2012) explore the

Students playfully grasp the opportunities and barriers of collaboration

improvisational nature of innovation that emerge in human conversational interaction. The study shows that such processes may begin as ordinary conversations, which sometimes unpredictably turn into windows of opportunities that enable change. The challenge for managers is to recognise such invitations as they emerge react upon them.

This theme has important implications for managers - they are in charge but not in control (Stacey 2001; Streatfield, 2001). Their most prominent role may be to continuously re-shape a climate for innovation, they remain at a distance by staging and facilitating and thus allow others to take ownership of the innovation process. For example, a study of an open approach to ideation showed that external ideas were only effectively transferred into the organization if a manager was involved in the development and facilitation of the process (Sichlau 2012). This is also shown in the collaborative prototyping approach where managers, marketers, designers and external stakeholders were simultaneously involved in a collective process of sense making and problem solving (Bogers & Horst, forthcoming). As such, emergence, as an integral part of innovation processes, can be managed but only through empowering local interactions inside and outside the organisation (Bogers & Larsen 2012). While a manager's role is to set direction and somehow plan interaction along emerging invitations, a paradox that remains is the tension between the simultaneous wish for structure and for the unexpected to emerge (Have 2011).

Boundary objects, such as the collaborative prototype, playful game or theatre intervention, serve as an enabler of participation across boundaries, thereby offering managers, educators and consultants a platform to facilitate learning and innovation processes (Have 2010; Stenger & Rolfstam 2011). As such, the emergent nature of innovation gives managers the opportunity to shape a supportive climate by encouraging experimentation and collaboration. The challenge is to embrace uncertainty and autonomy, and to accept that one self will change with ongoing interactions.

References

Bogers, M., Afuah, A. & Bastian, B. (2010) Users as innovators: A review, critique, and future research directions. *Journal of Management*, 36 (4): 857-875.

* Bogers, M. & Horst, W. (forth) Collaborative prototyping: Cross-fertilization of knowledge in prototype-driven problem solving. *Journal of Product Innovation Management* Accepted for publication; Available at SSRN: http://ssrn.com/abstract=2139335.

Bogers, M. & Larsen, H. (2012) The role of improvisation in processes of innovation, *Proceedings of the Participatory Innovation Conference, January 12-14, 2012*, Melbourne, Australia: unpaged.

Bogers, M. & Sproedt, H. (2012) Playful collaboration (or not): Using a game to grasp the social dynamics of open innovation in Innovation and Business education. *Journal of Teaching in International Business*, 23 (2): 75-97.

Bogers, M. & West, J. (2012) Managing distributed innovation: Strategic utilization of open and user innovation. *Creativity and Innovation Management*, 21 (1): 61-75.

Buur, J., Ankenbrand, B. & Mitchell, R. (2013). Participatory Business Modelling. *CoDesign: International Journal of CoCreation in Design and the Arts* 9(1). 55–71.

Buur, J. & Matthews, B. (2008) Participatory innovation. *International Journal of Innovation Management* 12 (3): 255-273.

Chesbrough, H. (2003). *Open Innovation: The New Imperative for Creating and Profiting from Technology*. Boston, MA: Harvard Business School Press.

Have, C. (2010) Ansvarlighed og Styring – et eksperimentelt perspektiv. *Økonomistyring & Informatik 25 (4) 335-356.*

Have, C. (2011) Det gælder om at have styr på tingene uden at styre. In E. Sørensen and J. Torfing (Eds.), *Samarbejdsdrevet Innovation i den Offentlige Sektor*: 279-295. Copenhagen: Jurist- og Økonomforbundets Forlag. 279-295.

Pedrosa, A. (2009) Motivating stakeholders for co-created innovation. *The Open Source Business Resource*. December, 35-39.

Sichlau, M. (2012) *Managing an open approach to ideation: An exploration of the external involvement in the ideation process*, Master Thesis, Mads Clausen Institute, University of Southern Denmark.

Stenger, M. & Rolfstam, M. (2011). *Reflections on University Teaching: A Collection of Perspectives*. Sønderborg: University of Southern Denmark.

von Hippel, E. 2005. *Democratizing Innovation*. Cambridge, MA: MIT Press.

West, J. & Bogers, M. (forthcoming). Leveraging external sources of innovation: A review of research on open innovation. *Journal of Product Innovation Management*. Available at SSRN: http://ssrn.com/abstract=2195675.

Stacey, R. D. 2001. Complex Responsive Process in Organizations: Learning and Knowledge Creation. London: Routledge.

Streatfield, P. 2001. The Paradox of Control in Organizations. London: Routledge.

PhD Dissertations

Horst, W. (2011) *Prototypes as Platform for Participation. Designing prototypes for collaborative product development.* PhD Dissertation, Mads Clausen Institute, University of Southern Denmark

Wulff, V. (under revision) *Exploring Inter-firm R&D Activities in Strategic Dyads - a Multinational Supplier Perspective.* PhD Dissertation, Department of Border Region Studies, University of Southern Denmark

Claus Have MBA
Senior Consultant
Dacapo as

Marcel Bogers PhD MSc
Associate Professor - Innovation Management
Mads Clausen Institute, SDU

6 Participatory Innovation as Practice

SPIRE has developed new practices to support the unpredictable and risky processes that come with accepting opinions and contributions from many diverse participants, whilst maintaining a minimum of facilitation to ensure progress. Facing this balance between risk and control is precisely what makes an innovative outcome plausible.

Turning user knowledge actionable

User knowledge is valuable for innovation because of the 'ethnographic provocation' (Buur & Sitorus 2007) that challenges a company to rethink the "taken for granted problem-solving framework" (Andersen 1994). This rethinking, however unpleasant, is precisely the driver that may provide an incentive to innovate (Jaffari et al. 2011). SPIRE has striven to develop practices that render ethnographic studies actionable and valuable to industrial organisations using for instance video, provotypes and improvised theatre.

Video recordings of users, in the form of *video specs*, can help shift project teams from a classic specification-driven approach towards iterative prototyping, for instance when Danish engineers develop equipment for far-away NGO de-miners in Africa (Buur et al. 2010). We have suggested how light-weight equipment like smart phones make video innovation easily applicable also to SMEs in the Hopscotch method (Buur & Oinonen 2011).
Boer developed the concept of *provotypes* in his PhD research - artifacts designed to convey user knowledge in physical form. He has shown how it is possible to provoke discussions about organisational preconceptions e.g. to building component companies about how people tend to 'make' indoor climate, rather than passively accept a technology controlled condition (Boer et al. forth.).
Similarly, *improvised theatre* by Dacapo illustrates how actors can foster user empathy, and convey controversial findings,

A modular energy system for NGO camps. An idea from an innovation session based on 'video specs' showing daily life in Congo.

while making it 'safe' for developers and marketing people to voice scepticism and discuss sensitive issues (Torquet et al. 2013). In one case, the aim was to convey how contradictory someone's behavior can seem in different environments, and to show that technical low-energy systems may not align well with people's practices.

Expanding the circle of participation

A particular characteristic of participatory innovation is inclusive settings that allow a broad range of 'users' to contribute: Business partners, suppliers, sales employees, service technicians, and a wide variety of what firms today call 'end-users'. SPIRE developed techniques to scaffold participation across different competencies, in particular with tangible materials (Heinemann et al. 2009). Landgrebe in her PhD has shown that tangibles seen as epistemic ressources play a very powerful role in organising social interactions in coordination with speech - but also that they in themselves don't strengthen democratisation (Landgrebe 2012).

When stakeholder configurations get complex, participants need methods to discover and cope with the broad range of legitimate stakes in innovation projects. We have found both mapping of *tangible objects* and *roleplay* formats exceedingly successful for this (Buur et al. 2013), along with visualisations (Mitchell & Nørgaard 2011).
Horst in his PhD has shown how his approach *live prototyping* enables organisations to include non-technologists in the development of novel products with digital user interfaces (2011).
To expand the traditional user workshop format from participatory design SPIRE has developed *multi-stakeholder workshops* - larger arenas for innovative engagements, for instance to develop 'The Strong Hand', a new assistive device for reheumatic patients (Gottlieb et al. 2013).

Dealing with business challenges

Participatory innovation strives to include business model development as an integral component of the innovation process alongside the co-design of products and services. This requires new techniques to make business discussions accessible to people without formal business schooling. In developing these techniques we have realised that business innovation can hugely benefit from participants rethinking the terms they use, the roles actors play (Buur et al. 2013) and the causalities they assume valid (Buur & Gudiksen 2012). Mitchell in his PhD research developed the concept of *tangible business modelling* that utilizes designerly expression to scaffold participation in developing new business concepts e.g. in how a light equipment manufacturer can make a new

technology available to various market segments (Mitchell forth). He uses these experiments to generalise how designed contraptions of unusual kinds can trigger collaboration and new innovative thinking.

Reflective innovation practice

As a development of Schön's seminal work on reflective practice (1983), which largely focuses on individual professionals, SPIRE seeks to build a collaborative, reflective layer within participatory innovation. We have developed formats that challenge organisations to reconsider their practices:
Innovation games as an extention of the Silent Game tradition (Harbraken & Gross 1987), in which players get to work with team processes through the assembly of physical pieces. These games allow participants to recognise collaboration

Tangible value network mapping with 'the silver set'. A light equipment manufacturer looks towards entering new market segments.

dilemmas and try out strategies to counter them (Bogers & Sproedt 2012).
Innovation theatre provide another opportunity to collaboratively reflect on current practices. The actors replicate innovation process situations to allow spectators to observe well-known dilemmas at a conceptual distance and discuss perspectives and solutions (Buur & Larsen 2010).

These Participatory Innovation techniques were developed through action research projects with industry partners, teaching experiments with graduate students, and workshops with peer researchers at international conferences. In particular the interaction between User Centred Design and Interaction Analysis researchers has proven valuable in substantiating theoretical claims about why theses new methods 'work'. Interviews with our industry partners show that the practices

do have lasting value beyond the immediate results. When participants experience the impact of practices on work intensity and innovative outcome they strive for participation in the subsequent projects (Gunn & Clausen in press).

References

Anderson, R. J. (1994) Representations and Requirements: The Value of Ethnography in System Design. *Human-Computer Interaction*, 9, 151-182.

* Boer, L., Donovan, J. & Buur, J. (Forth). Challenging industry conceptions with provotypes. *CoDesign: International Journal of CoCreation in Design and the Arts.*

Bogers, M. & Sproedt, H. (2012) Playful Collaboration (Or Not): Using a Game to Grasp the Social Dynamics of Open Innovation in Innovation and Business Education. *Journal of Teaching in International Business*, 23, 75-97.

* Buur, J., Ankenbrand, B. & Mitchell, R. (2013). Participatory Business Modelling. *CoDesign: International Journal of CoCreation in Design and the Arts 9(1).* 55–71.

Buur, J., Fraser, E., Oinonen, S. & Rolfstam, M. (2010). Ethnographic Video as Design Specs. In: *Proceedings of the OzCHI '10 Conference.* Brisbane, Australia. 49-56.

Buur, J. & Gudiksen, S. (2012). Interactive Pinball Business. In: *Proceedings of the Nordic Human Computer Interaction Conference (NordiCHI '12).* Copenhagen, Denmark. 129-138.

Buur, J. & Larsen, H. (2010). Crossing Intentions in Participatory Innovation. In: *Proceedings of the Participatory Design Conference (PDC '10).* New York, USA. 251-254.

Buur, J. & Oinonen, S. (2011). *Video Design Hopscotch/ Video Design Hinkesten.* Sønderborg: University of Southern Denmark

Buur, J. and Sitorus, L. (2007). Ethnography as design provocation. *Proceedings of the Ethnographic Praxis in Industry Conference* (EPIC 2007), Keystone, Colorado.

Gottlieb, F., Larsen, H. & Sørensen, V. (2013). Multi stakeholder innovation. In: *Proceedings of the 3rd Participatory Innovation Conference (PIN-C '13).* Lahti, Finland.

Gunn, W. & Clausen, C. (in press). Conceptions of Innovation and Practice: Designing Indoor Climate. In: Gunn, W., Otto, T. & Smith, R. C. (Eds.), *Design Anthropology: Theory and Practice.* London: Berg.

Harbraken N.J. & Gross M.D. (1987): A report submitted to the National Science Foundation Engineering Directorate, Design Methodology Program, Dept. of Architecture, MIT, Cambridge, Massachusetts

Heinemann, T., Mitchell, R. & Buur, J. (2009). Co-constructing meaning with materials in innovation workshops. In: B. Darras and Belkhamsa, S. (Eds.), *Objets et Communication, MEI, n. 30-31.* Paris: Aujourd'hui. 289-304.

Jaffari, S., Boer, L. & Buur, J. (2011). Actionable Ethnography in Participatory Innovation: A Case Study. In: *Proceedings of The 15th World Multi-conference on Systemics, Cybernetics and Informatics.* Orlando, Florida. 100-106.

Schön, D. A. (1983) The Reflective Practitioner: How Professionals Think in Action. New York, NY: Basic Books.

Torguet, R., Friis, P. & Buur, J. (2013). *User Ethnography as Theatre. In: Proceedings of the 3rd Participatory Innovation Conference (PIN-C '13).* Lahti, Finland.

PhD Dissertations

Landgrebe, J. (2012) *Epistemic and Material Resources for Sense- and Decision-Making in Collaborative Processes of Innovation and Design.* PhD Dissertation, Institute of Business Communication and Information Studies, University of Southern Denmark

Mitchell, R (forthcoming) *Provoking Risky Encounters: Balancing Intra Group Interdependencies in Design & Innovation.* PhD Dissertation, Mads Clausen Institute, University of Southern Denmark
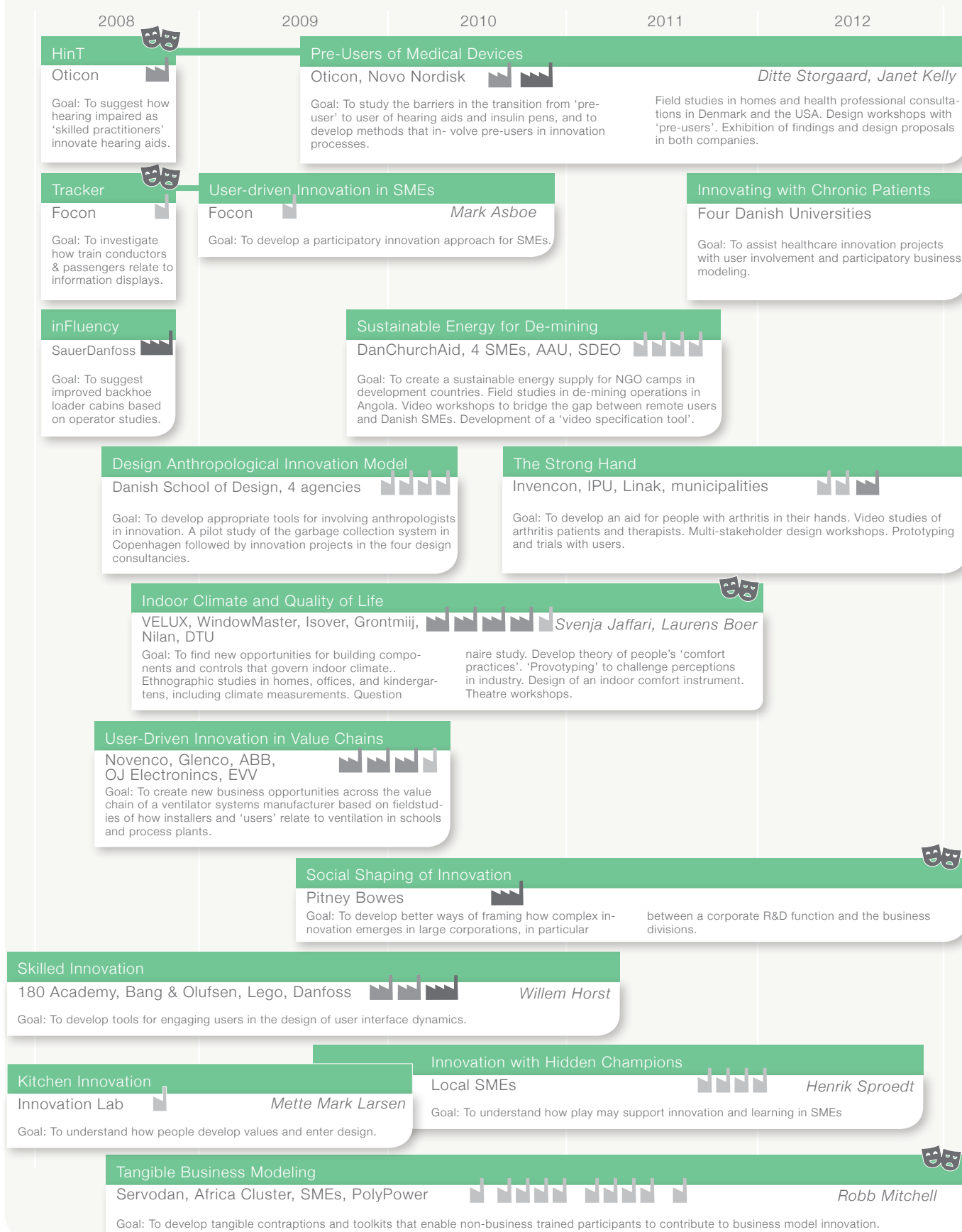
Jacob Buur PhD MSc
Professor, Research director - User Centred Design
Mads Clausen Institute, SDU

Innovation Projects

SPIRE completed 16 experimental projects as empirical base for research into how a participatory innovation can bring users and stakeholders together to create novelty.

This overview indicates the goal of each project, the company partners, and the name of PhD-students, if funded by the project. The theatre icon shows where Dacapo was involved.

2008	2009	2010	2011	2012

HinT
Oticon

Goal: To suggest how hearing impaired as 'skilled practitioners' innovate hearing aids.

Pre-Users of Medical Devices
Oticon, Novo Nordisk   *Ditte Storgaard, Janet Kelly*

Goal: To study the barriers in the transition from 'pre-user' to user of hearing aids and insulin pens, and to develop methods that in- volve pre-users in innovation processes.

Field studies in homes and health professional consultations in Denmark and the USA. Design workshops with 'pre-users'. Exhibition of findings and design proposals in both companies.

Tracker
Focon

Goal: To investigate how train conductors & passengers relate to information displays.

User-driven Innovation in SMEs
Focon   *Mark Asboe*

Goal: To develop a participatory innovation approach for SMEs.

Innovating with Chronic Patients
Four Danish Universities

Goal: To assist healthcare innovation projects with user involvement and participatory business modeling.

inFluency
SauerDanfoss

Goal: To suggest improved backhoe loader cabins based on operator studies.

Sustainable Energy for De-mining
DanChurchAid, 4 SMEs, AAU, SDEO

Goal: To create a sustainable energy supply for NGO camps in development countries. Field studies in de-mining operations in Angola. Video workshops to bridge the gap between remote users and Danish SMEs. Development of a 'video specification tool'.

Design Anthropological Innovation Model
Danish School of Design, 4 agencies

Goal: To develop appropriate tools for involving anthropologists in innovation. A pilot study of the garbage collection system in Copenhagen followed by innovation projects in the four design consultancies.

The Strong Hand
Invencon, IPU, Linak, municipalities

Goal: To develop an aid for people with arthritis in their hands. Video studies of arthritis patients and therapists. Multi-stakeholder design workshops. Prototyping and trials with users.

Indoor Climate and Quality of Life
VELUX, WindowMaster, Isover, Grontmiij, Nilan, DTU   *Svenja Jaffari, Laurens Boer*

Goal: To find new opportunities for building components and controls that govern indoor climate.. Ethnographic studies in homes, offices, and kindergartens, including climate measurements. Question naire study. Develop theory of people's 'comfort practices'. 'Provotyping' to challenge perceptions in industry. Design of an indoor comfort instrument. Theatre workshops.

User-Driven Innovation in Value Chains
Novenco, Glenco, ABB, OJ Electronincs, EVV

Goal: To create new business opportunities across the value chain of a ventilator systems manufacturer based on fieldstudies of how installers and 'users' relate to ventilation in schools and process plants.

Social Shaping of Innovation
Pitney Bowes

Goal: To develop better ways of framing how complex innovation emerges in large corporations, in particular between a corporate R&D function and the business divisions.

Skilled Innovation
180 Academy, Bang & Olufsen, Lego, Danfoss   *Willem Horst*

Goal: To develop tools for engaging users in the design of user interface dynamics.

Innovation with Hidden Champions
Local SMEs   *Henrik Sproedt*

Goal: To understand how play may support innovation and learning in SMEs

Kitchen Innovation
Innovation Lab   *Mette Mark Larsen*

Goal: To understand how people develop values and enter design.

Tangible Business Modeling
Servodan, Africa Cluster, SMEs, PolyPower   *Robb Mitchell*

Goal: To develop tangible contraptions and toolkits that enable non-business trained participants to contribute to business model innovation.

Improvisational Theatre as Research

Next to action research, theatre has become a substantial approach in participatory innovation research in SPIRE. Dacapo, a change process consultancy and research partner in SPIRE, has developed a dynamic improvisation practice, capable of mirroring movement of what actually goes on in daily human interactions and at the same time creating movement in businesses and organisations.

Dacapo's approach to theatre has developed out of two traditions: *Theatre Improvisation* in which the roles and the situation as such emerges in the interactions between actors (Johnstone 1981), and *Forum Theatre* as invented by Boal (1979), which invites participants ('theatre of the oppressed') to enact their own propositions directly on stage. Influenced by both of these methods we focus on the interaction of the involved, in exploring patterns of interaction and in encouraging the emergence of new conversations. Stacey et al's (2000) 'complex responsive processes of relating' resonates well with improvisational theatre and has been adopted as a theoretical fundation for understanding the nature of human interaction.

Improvisational theatre provides a research window into human interaction. It challenges the idea of researcher as neutral observer – no one with the intent of being objective can possibly remain in this position for long. Theatre is per se an experiential activity, which closely links cognition and bodily experience. Improvisational theatre is at the same time constraining and enabling. Constraining in the sense that we find ourselves in a fictitious world, usually with an invitation in the form of a scripted play that can develop in the interactions between actors and audience. Enabling in the sense that the participants are invited to influence the action based on their own experiences, which potentially leads to something that is otherwise quite difficult to explore. We can think of the scripted play as a theatrical provotype, created for the situation, which shows patterns of interaction that are recognizable but not satisfying for the participants. Larsen (2011) describes how improvisational theatre can contribute to organizational change processes, e.g. in policy development in municipalities and in business mergers (Have 2010, 2011).

Dacapo has contributed in different ways to SPIRE research. One is to explore the potentials and barriers towards participatory innovation in (industrial) organisations. In the 2009 PhD summer school we created a fictitious business COINS Inc. in which we introduced participatory innovation both on management and project levels. The play in 5 sets developed over three days and challenged participants to relate their own experiences from companies to discuss innovation

processes (Buur & Larsen 2010). The play was since used with industrialists. In the 2011 summer school we invited managers from two large organizations to engage with actors to better understand the challenges of innovation and explore possible interventions.

Actors improvise how an engineer, a designer, and a marketeer discuss innovation. Theatre experiments at a SPIRE summer school.

In other settings we have experimented with theatre as a way of conveying controversial user knowledge into business organisations (Torquet et al. 2013). In a program for PhD supervisors we have established a series of workshops to encourage reflection about interactions with PhD students. For instance, Dacapo actors played a meeting with a PhD student in which the supervisor came to doubt the capabilities of the student. The specta(c)tors give multiple suggestions for actions and supervisors get to try out their ideas on stage. Finally, improvisational theatre has played an important role internally in SPIRE in bringing together the different research perspectives and intentions.

References

Boal, A. (1979). *Theatre of the Oppressed*. London, Pluto Press

Buur, J. & Larsen, H. (2010). Crossing Intentions in Participatory Innovation. In: *Proceedings of the Participatory Design Conference (PDC '10).* Sydney, Australia. 251-254.

Have, C. (2010) Ansvarlighed og Styring – et eksperimentelt perspektiv. *Økonomistyring & Informatik – 25. (4)*

Johnstone, K. (1981). *Impro: improvisation and the theatre.* London, Eyre Methuen.

* Larsen, H. (2011). Improvisational theatre, in Baungaard Rasmussen, L. (Ed.), *Facilitating change, User Interactive Methods in organizations, communities and networks.* Polyteknisk Forlag. 327-354.

Shaw, P. and R. Stacey, Eds. (2005). *Experiencing Risk, Spontaneity and Improvisation in Organizational Change. L*ondon, Routledge.

Torquet, R., Friis, P. & Buur, J. (2013). *User Ethnography as Theatre. In: Proceedings of the 3rd Participatory Innovation Conference (PIN-C '13).* Lahti, Finland.

Claus Have MBA
Senior Consultant
Dacapo as

Tools & Resources

Reflective Games

PIN Game

The PIN game is a finely designed multiplayer construction kit that reveals paradoxes of collaboration and competition. The players take turns to build a tower together using pieces with holes and struts. However, the players also have an individual goal of collecting points based on which of their pieces they are able to utilise. And the pieces with highest point count are the most difficult for other players to grow the tower on. The game becomes a tool for reflection about social dynamics, in contexts where multiple stakeholders collaborate and bring in play their different needs. (Bogers & Sproedt 2011; Sproedt and Boer 2011)

Venture Tower Game

This is a collaborative construction game that encourages discussions of trust and expectations in business joint ventures. The game requires several participants to build a tower together using their own resources, being careful how they place them, and how they might get revenue back. (Groskovs 2011)
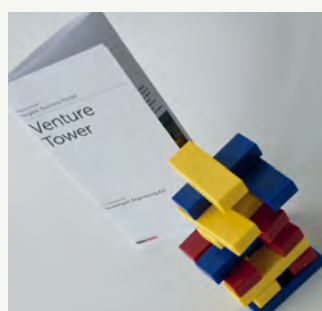
Tangible Business Models

Balancers

These are interactive, but highly unpredictable sculptures. The Sales Effort Balancer is a hanging structure that triggers discussions about balancing R&D with sales department assets. The Collaboration Balancer is a tabletop contraption like an old-fashioned scale that challenges business adversaries to turn their requests and offers into tangible pieces. This turns negotiation into a game, where it's the process of balancing that is interesting, rather than achieving a particular balance. (Mitchell & Buur 2010; Mitchell 2010)

Silver Set

This is a tool box comprising a diverse mix of exotic and banal metallic artifacts, primarily deployed to facilitate rich discussions of value networks and other inter-organisational mappings. The different pieces and elements of the Silver Set act as a source of inspiration for participants, supporting discussion and agreement on abstract concepts and the relations between them and the companies. (Buur & Mitchell 2011; Heinemann et al. 2009; Landgrebe 2012).

Pinball Game

Inspired by the classic pinball game, this set provokes discussion of how different actions may influence customers' choices. Marbles rolling down the field represent customers. They ricochet off adjustable obstacles on their route towards different receptacles: e.g. customers that buy, and customers that don't. The set allows participants to quickly evaluate different strategies and it sparks animated discussions, thanks to the partly unpredictable behaviour of the rolling marbles. (Buur and Gudiksen 2012; Mitchell & Buur 2010; Mitchell 2010)
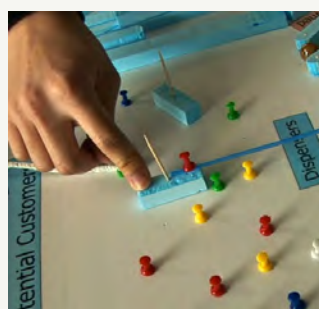
Value Picture Cards

This is a set of images that provokes a three-part discussion of professional relationships: How do you handle, monitor and affect your partners? The images in the small booklet act as metaphors of different ways to approach one's partner, and viewing each other's choice triggers reflection on partner relations. (Buur & Mitchell 2011)
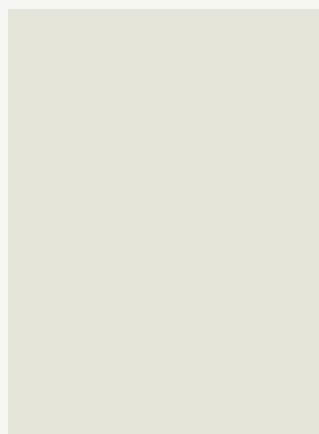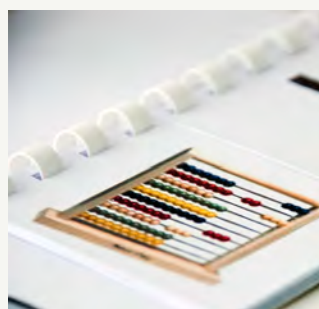

Acrylic Arrows

This toolkit allows different stakeholders to discuss what they need to put into a business relationship, as well as what they can get out of it. Blocks in the form of wipeable transparent pieces represent resources, services or competencies that each stakeholder wants to offer. Arrows allow participants to visualise where these resources could be allocated, and what each participant can potentially receive from other stakeholders. As they are tangible, the pieces are easy to move, relocate, rename and sort out, thus facilitating stakeholders in their negotiations of each others' objectives and resources in a project. (Oorshot 2013)

Toy Train Set

This set is a wooden conversation starter that facilitates easy collaborative construction of customer journeys and multi track organisational dilemmas. By hingeing on playful and collaborative building, the train set facilitates exploration of different configurations of processes, and the dilemmas that might be encountered on the way. With its ease of manipulation, the toolkit favours participation in innovating customer journeys, organisational processes, timelines and plans. (Beuthel & Buur 2012; Buur & Mitchell 2011)
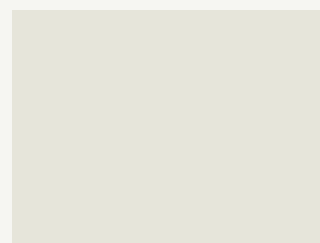
Video Material

Video Hopscotch Booklet

In this small book, designers can find a guide on how to best use their mobile phone to record data from the field, and transform it into inspiring material for a design process. The collection shows how video can be used as a basis for several simple but effective team activities. These activities support sharing of user knowledge, discussion of priorities and limits, as well as providing inspiration and new ideas. (Buur & Oinonen 2011)


Video Specs DVDs

These are two examples of how user video can provide input for innovation projects. Each DVD contain 6-8 short videos edited as video specs, i.e. requirements on functionality, usability, transport, dimensions etc. Originally created for two specific projects relating to development countries and arthritis patients, the DVDs have proven wider applicability beyond the projects. (Buur et al. 2010)
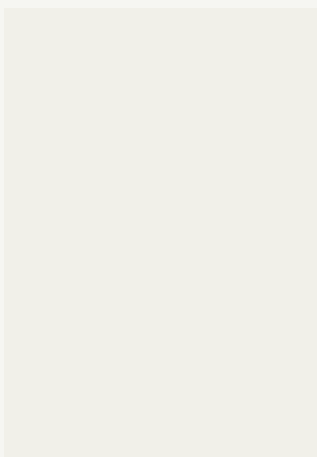
Theatre Scripts

Directors of the Future

Originally devised for the EPIC 2008 conference, these three video scenes of interactive theatre envision how prominent design ethnographers see the future of their profession. They challenge us to rethink the role of ethnographers in business. (Buur & Arnal 2008)
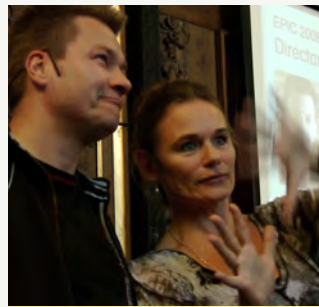
Coins Incorporated

Coins Inc. is an imagined manufacturer of coins and systems of monetary payment. This theatre play in five acts on video demonstrates core dilemmas that a company will meet when embracing participatory innovation: The role of the CEO: A multitude of stakeholder opinions-suppliers, customers, users; Conflicting intentions in the development team; A fleamarket study with recalcitrant 'users'. The not-invented-here mechanism; (Buur & Larsen 2010a, 2010b)
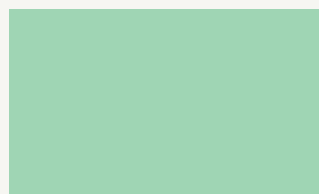

Indoor Climate Theatre

This interactive performance captured on video conveys controversial findings about how people in homes, kindergarten and the office 'make' their own indoor climate as opposed to relying fully on technology control. The scenes show how contradictory someone's behaviour can seem in different environments, and that climate systems do not align well with people's practices (Torguet et al. 2013).
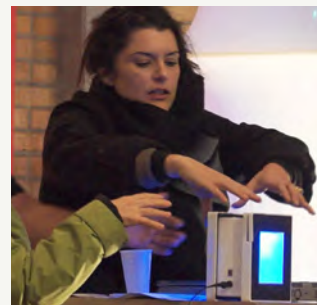
Indoor Climate Booklet

The indoor climate project report brings together engineering, ethnographic and designerly perspectives on human comfort. It summarises user studies in homes, kindergartens and offices, experimental work with 'provotypes', and the design of a comfort instrument (Buur (ed.) 2012).
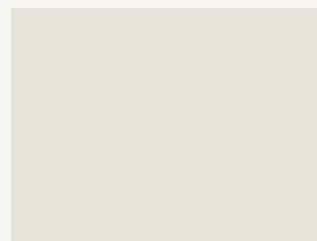
References

Bogers, M. & Sproedt, H. (2011). Playful Collaboration (or Not): Using a Game to Teach Open Innovation concepts and Practices. In: *Digital Proceedings of the 12th international CINet conference.* Aarhus, Denmark.

Buur, J., Fraser, E., Oinonen, S. & Rolfstam, M. (2010). Ethnographic Video as Design Specs. In: *Proceedings of the OzCHI '10 Conference.* Brisbane, Australia. 49-56.

Buur, J. & Mitchell, R. (2011). The Business Modeling Lab. In: *Proceedings of the 1st Participatory Innovation Conference (PIN-C '11).* Sønderborg, Denmark. 368-374.

Buur, J. & Gudiksen, S. (2012). Interactive Pinball Business. In: *Proceedings of the Nordic Human Computer Interaction Conference (NordiCHI '12).* Copenhagen, Denmark. 129-138.

Buur, J. & Oinonen, S. (2011). *Video Design Hopscotch/ Video Design Hinkesten.* Sønderborg: University of Southern Denmark.

Buur, J. & Arnal, L. (2008). Directors of the Future. Panel report. In: *Proceedings of the Ethnographic Praxis in Industry Conference (EPIC '08).* Copenhagen, Denmark. 334-337.

Buur, J. & Larsen, H. (2010). The Quality of Conversations in Participatory Innovation. *CoDesign: International Journal of CoCreation in Design and the Arts, 6(3).* 121-138.

Buur, J. & Larsen, H. (2010b). Crossing Intentions in Participatory Innovation. In: *Proceedings of the Participatory Design Conference (PDC '10).* New York, USA. 251-254.

Buur, J. (Ed.) (2012). *Making Indoor Climate: Enabling people's comfort practices.* Sønderborg: University of Southern Denmark

Buur, J. & Beuthel, M. (2013). Skilled Toy Train Discussions about Business Innovation. In: *Proceedings of the 3rd Participatory Innovation Conference (PIN-C '13).* Lahti, Finland.

Groskovs, S. (2011). Design Talks Business: The Venture Tower Game. In: *Proceedings of the Student Interaction Design Conference (SIDeR '11).* Copenhagen, Denmark. 37-40.

Heinemann, T., Mitchell, R. & Buur, J. (2009). Co-constructing meaning with materials in innovation workshops. In: B. Darras and Belkhamsa, S. (Eds.), *Objets et Communication, MEI, n. 30-31.* Paris: Aujourd'hui. 289-304.

Landgrebe, J. (2012). 'I think-you know' Two epistemic stance markers and their significance in an innovation process. *Språk och Interaktion 3.* 107-131.

Mitchell, R. & Buur, J. (2010). Tangible business model sketches to support participatory innovation. In: *Proceedings of the 1st ACM Conference on Creativity and Innovation in Design (DESIRE '10).* Aarhus, Denmark. 29-33.

Mitchell, R. (2013). Tangible business model sketches to facilitate intersubjectivity and creativity in innovation. In: Müller, A.P. & Becker, L. (Eds.) *Narrative and Innovation: New Ideas for Business Administration, Strategic Management and Entrepreneurship.* Wiesbaden, Springer VS. 131-138.

Oorschot, R. van (2013). How tangible arrows create innovative relations. In: *Proceedings of the 3rd Participatory Innovation Conference (PIN-C '13).* Lahti, Finland.

Torguet, R., Friis, P. & Buur, J. (2013). User Ethnography as Theatre. *In: Proceedings of the 3rd Participatory Innovation Conference (PIN-C '13).* Lahti, Finland.

Sproedt, H. & Boer, L. (2011). Grasping social dynamics of participatory innovation: A case of playing a game. In: *Proceedings of the 12th International CINet Conference.* Århus, Denmark. 953-969.

Research Production

## Internal Co-authors

External Co-authors
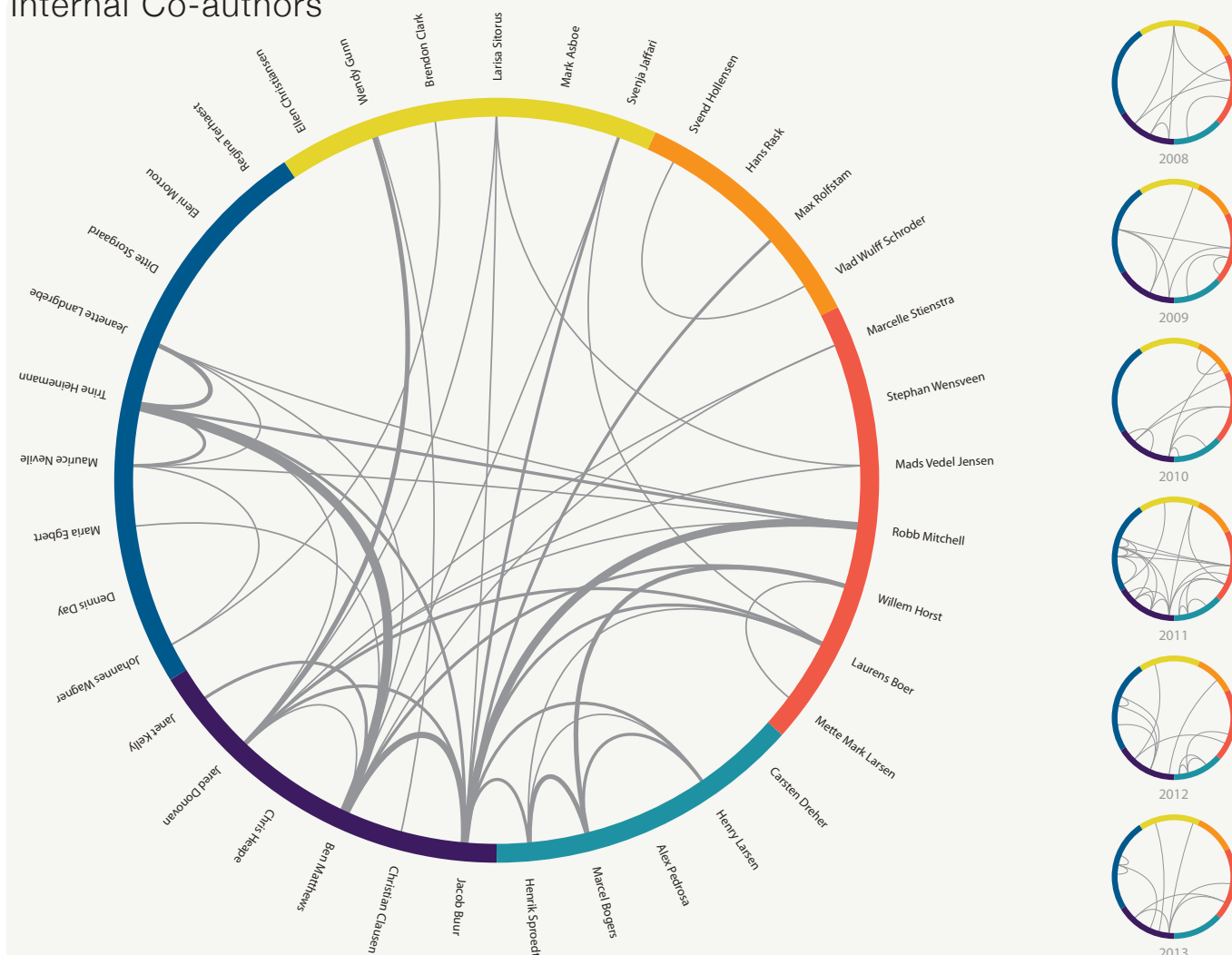
Internal co-authorships

The diagram above depicts internal co-authorships, where the thickness of the line corresponds to the number of articles - the thicker the line, the heavier collaboration. The figure highlights which SPIRE disciplines worked together. We can learn from the diagram that in particular User Centred Design, Interaction Design, and Interaciton Analysis are closely interlinked. Promising connections are developing between User Centred Design & Design Anthropology and between Innovation Management & Interaction Design, but there might be further opportunities for other links. Business appears to be quite on its own. Building collaboration across disciplines takes time: From 2011 and forward the internal collaborations increase.
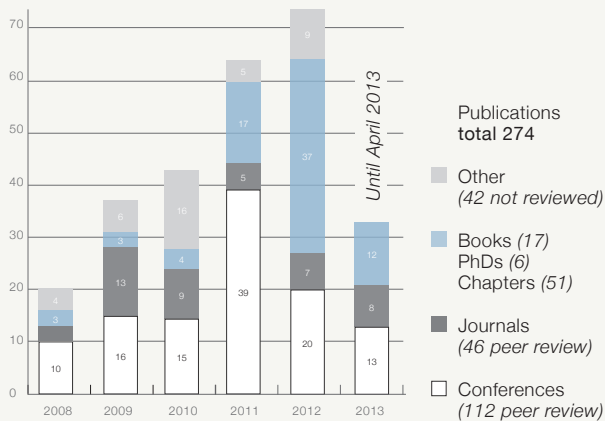
External co-authorships

The diagram to the right shows the affiliations of SPIRE's external co-authors. It indicates with how many employees from the respective institute we collaborated with (the diagram does not count the number of publications with a co-author; several publications could have been written with the same author).
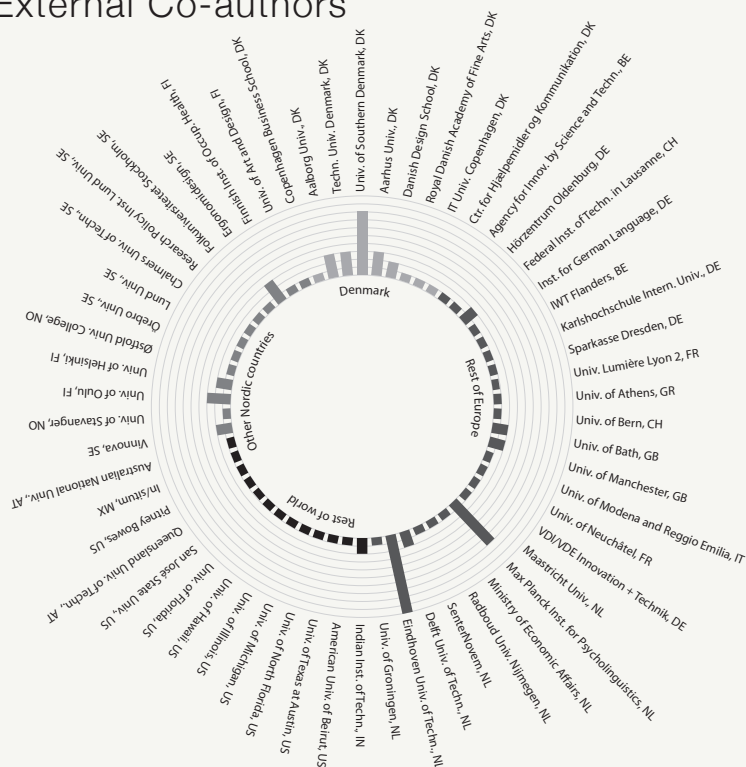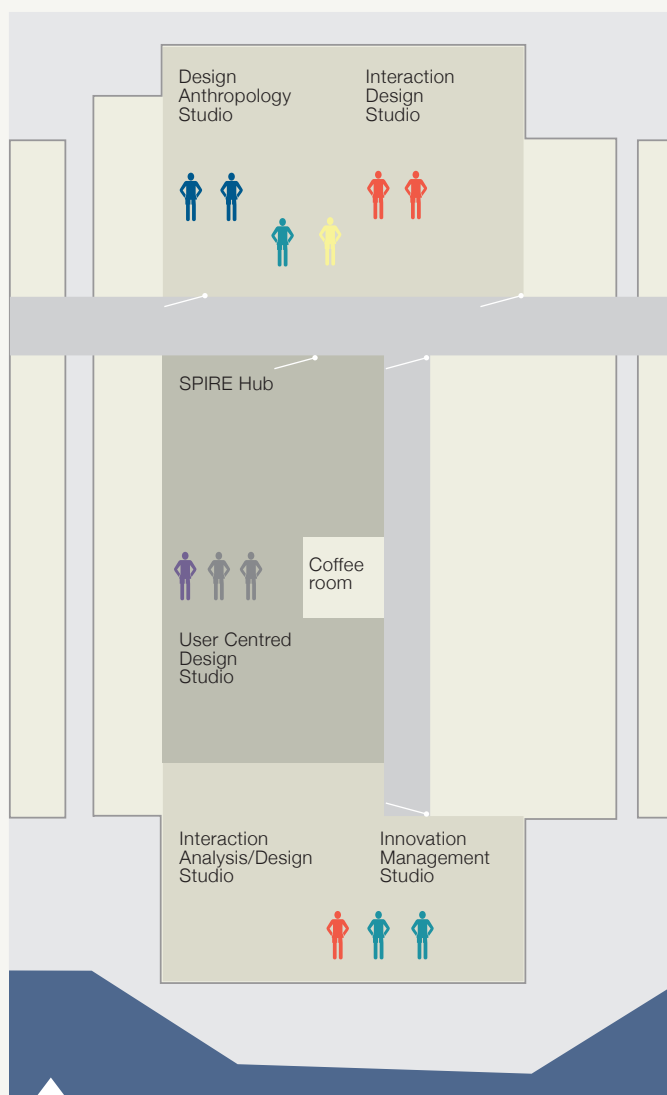
Publication Development

Scientific journals are still largely mono-disciplinary, whereas conferences and book publishers increasingly accept cross-disciplinary contributions.

Until April 2013

Publications total 274

Other
(42 not reviewed)

Books *(17)*
PhDs *(6)*
Chapters *(51)*

Journals
(46 peer review)

Conferences
(112 peer review)

Research Studios

SPIRE researchers are located in open studios to encourage frequent interactions across disciplines.

Design Anthropology Studio

Interaction Design Studio

SPIRE Hub

Coffee room

User Centred Design Studio

Interaction Analysis/Design Studio

Innovation Management Studio

Spire Members

Design Anthropology

Ellen Christiansen professor 2008-2009
Wendy Gunn associate professor
Brendon Clark postdoc 2008-2011
Larisa Sitorus phd researcher 2005-2009
Mark Asboe phd researcher (Focon) 2008-2010
Svenja Jaffari phd researcher 2008-2012

Business

Svend Hollensen associate professor
Hans Rask associate professor until 2011
Max Rolfstam postdoc 2009-2012
Vlad Wulff Schröder phd researcher 2010-2013

Interaction Design

Marcelle Stienstra associate professor
Stephan Wensveen associate professor from 2011
Mads Vedel Jensen postdoc 2008-2011
Robb Mitchell research assistant 2012-2013
Willem Horst phd researcher 2007-2011
Laurens Boer phd researcher 2009-2012, postdoc 2012
Mette Mark Larsen phd researcher 2006-2009

Innovation Management

Carsten Dreher professor until 2009
Henry Larsen professor from 2011
Alex Pedrosa assistant professor 2009-2012
Marcel Bogers postdoc 2009-2012, associate professor 2012
Henrik Sproedt phd researcher 2009-2012, assistant professor 2012

User Centred Design

Jacob Buur professor, research director
Christian Clausen professor 2009-2010
Ben Matthews associate professor until 2012
Chris Heape assistant professor until 2011
Jared Donovan postdoc 2008-2011
Janet Kelly industrial phd (Novo Nordisk) 2009-2013

Interaction Analysis

Johannes Wagner professor
Dennis Day associate professor
Maria Egbert associate professor
Maurice Nevile associate professor 2012-2013
Trine Heinemann postdoc 2008-2011, associate professor 2011
Jeanette Landgrebe postdoc 2008-2011, associate professor 2011
Ditte Storgaard industrial phd (Oticon) 2009-2013
Eleni Mortou phd researcher from 2011
Regina Terhaerst phd researcher from 2010

Dacapo Teatret

Henry Larsen research manager until 2011
Claus Have senior consultant
Lone Thellesen director
Several Dacapo actors

Centre administration

Jesper Pedersen project director 2008-2010
Winie Finnemann project director 2010-2011
Vicki Sørensen study coordinator from 2011
Rune Wulff-Christensen study coordinator 2006-2010
Betta Hansen administrator from 2011
Christina Folkenæs administrator 2008-2010

Laurens Boer PhD MSc
Postdoc. - Interaction Design
Mads Clausen Institute, SDU

Dissemination

Dissemination through graduates

We consider graduate education a fast track dissemination to industry. The IT Product Design programme (MSc IT) is linked directly to SPIRE research and SPIRE has substantial influence on graduates from Innovation and Business (MSc Eng) and Communication Design (MA). Candidates from these programmes find employment both in Danish industry and with international corporations around the globe (including Nokia, Philips, Siemens, Motorola Beijing, IDEO).
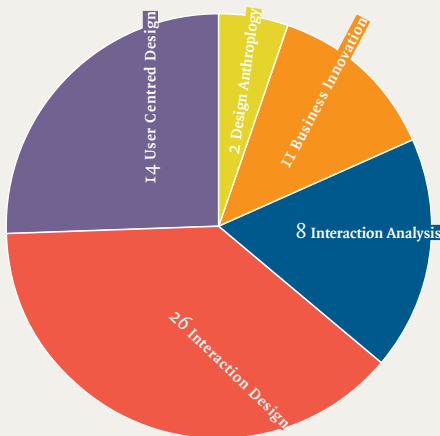
The cross-disciplinary profiles of 61 graduates from the IT Product Design programme 2008-13

- 14 User Centred Design
- 2 Design Anthropology
- 11 Business Innovation
- 8 Interaction Analysis
- 26 Interaction Design

Conferences

As the cross-disciplinary research community is still young, SPIRE played a leading role in organising new conferences:
Participatory Innovation Conference 2011, 2012, 2013
Ethnographic Praxis in Industry 2008 (local host)
Student Interaction Design Research Conference 2008
Danish HCI Research Symposium 2012

PIN-C 2011 — 180
PIN-C 2013
PIN-C 2012 — 150
SIDeR 2008 — 70
EPIC 2008 — 300
DHRS 2012 — 50

PhD Summerschools

Organising Participation in User-Driven Innovation

Each of the SPIRE disciplines exposed participants to their different conceptualisation of an "organisation" of user-driven innovation. We then used Dacapo theatre to tie together the different theories.

22   1 week Sønderborg   2009

Design Anthropology - co-organised w/ University of Aberdeen

The focus was on the relations between designing, making and using. Participants in teams made a cross-comparative study of three ongoing SPIRE projects, and discussed theories and practices of co-design, co-analysis, organisational transformation

36   1 week Aberdeen + 1 week Sønderborg   2010

Social Shaping of Innovation

The programme investigated how innovation and organisational change emerge from human interaction. We used theatre to explore and compare two live cases from Gibraltar Health Authorities and Pitney Bowes R&D.

38   1 week Sønderborg   2011

The three summerschools were highly explorative and influential in bringing together the SPIRE disciplines. SPIRE has additionally been involved in a broad range of PhD courses on Interaction Analysis, Interacting with Objects, Video Analysis, Workshop Facilitation etc.

PhD Research Education

Six SPIRE PhDs have already defended their dissertations succesfully, other five are close to submission or in progress.

Jaffari, S. (2012) *Everyday Comfort Practice: A Design Ethnographic Approach to Sustainable Indoor Climate and Technology.* PhD Dissertation, Mads Clausen Institute, University of Southern Denmark

Wulff, V. (under revision) *Exploring Inter-firm R&D Activities in Strategic Dyads - a Multi-national Supplier Perspective.* PhD Dissertation, Department of Border Region Studies, University of Southern Denmark

Horst, W. (2011) *Prototypes as Platform for Participation. Designing prototypes for collaborative product development.* PhD Dissertation, Mads Clausen Institute, University of Southern Denmark

Boer, L. (2012) *How Provotypes Challenge Stakeholder Conceptions in Innovation Projects.* PhD Dissertation, Mads Clausen Institute, University of Southern Denmark

Mitchell, R (forthcoming) *Provoking Risky Encounters: Balancing Intra Group Interdependencies in Design & Innovation.* PhD Dissertation, Mads Clausen Institute, University of Southern Denmark

Larsen, M. M. (2010) *User Values in Interaction Design. A cross-disciplinary exploration of everyday kitchen practice.* PhD Dissertation, Mads Clausen Institute, University of Southern Denmark

Sproedt, H. (2012) *Play, Learn, Innovate. Grasping the Social Dynamics of Participatory Innovation.* PhD Dissertation, Mads Clausen Institute, University of Southern Denmark

Kelly, J. (forthcoming) *Designing for a relationship other than use.* Industrial PhD Dissertation, Novo Nordisk and Mads Clausen Institute, University of Southern Denmark.

Storgaard, D. (forthcoming) *Practices of Treatability. A design anthropological study of pre-users of medical devices.* Industrial PhD Dissertation, Oticon and Institute for Design and Communication, University of Southern Denmark

Landgrebe, J. (2012) *Epistemic and Material Resources for Sense- and Decision-Making in Collaborative Processes of Innovation and Design.* PhD Dissertation, Institute of Business Communication and Information Studies, University of Southern Denmark

Mortou, E. (in progress) *Securing understanding in interactions of hearing-impaired with hearing individuals in institutional settings.* PhD topic, Institute for Design and Communication, University of Southern Denmark

Future Research Directions

The complex grand challenges that face societies today – such as equitable healthcare, amenable energy sources, sustainable resource consumption – are largely problems created by human actions, so responding to them requires social and technological innovation in combination. From SPIRE's research we have identified four research directions to further develop a participatory approach to innovation.

Interaction with meaningful objects

Innovation is to a wide extent associated with new material products. Humans seem to better understand 'innovation' through physical materialisations, as the way we grasp novelty. There is however a two-way relationship: we develop artefacts, and they develop how we relate to one another – think of the mobile phone. Artefacts help shape cultures. Artefacts bridge the abstract and the concrete, thus support inclusive participation in innovation processes. Research-wise there is little theory about the role of objects in interaction. There are basic questions about aesthetics and ethics that need to be addressed. The link between product and service innovation is unexplored.

Multi-stakeholder innovation

The immense complexity of the grand challenges facing society requires responses that can only be shaped in collaboration between a wide range of stakeholders: Politicians, industrialists, policy-makers, experts, interest groups, citizens etc. Yet, such social processes are often conflictual and messy. In healthcare, for instance, the move towards tele-medicine, although technologically and politically attractive, only has a chance of success if the wider range of issues has been adequately addressed: What does it fundamentally mean to turn the home into hospital? ...and to shift the work of doctors towards screen manipulation? New solutions will succeed, if developed in the relations between the various stakeholders and products/ services etc., although the process can become unpredictable and difficult to control.

Sustainable business co-design

Any innovation needs to sustain the business of the organisations involved to be successful. It is however becoming increasingly difficult for companies to handle the changing conditions, both the pecuniary and the broader societal ones. For example, in the publishing sector companies are facing the challenge of finding new business models for books, magazines and papers. The relations between producer and user of texts are changing quickly with web-based publication, and publishers depend more heavily on other actors in

the marketplace. Open innovation challenges the traditional understanding of innovation as driven by technology, and run by R&D departments in large companies. Markets are becoming less stable, and companies must learn to create new markets rather than just respond to the existing. It becomes crucial to explore the roles design can play in business, and to investigae how in particular small and medium size companies can find a role in a broader societal ecology with restricted resources available.
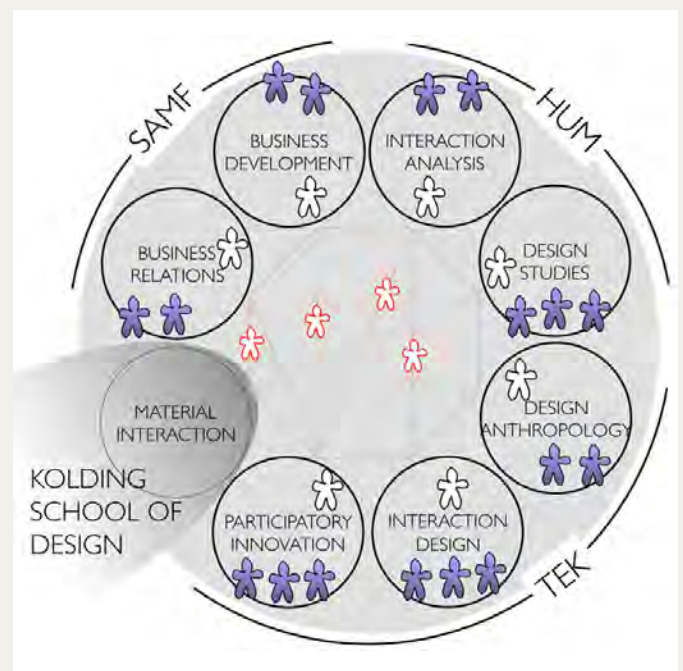
The new SDU Design research initiative 2013 interlinks eight disciplines much in the fashion of the SPIRE concept.

Aesthetic management of co-innovation

Innovation progresses through a series of iterations of which outcomes cannot be clearly defined in advance. This poses a serious challenge to management. Rather than being results of controllable activities, the innovations emerge in local interactions between team members, stakeholders, users etc. Managing such processes means accepting the risks involved in mutual improvisation. In continuation of a 'Scandinavian Leadership' inheritance there is an opportunity to develop 'aesthetic management', i.e. a conceptual understanding of the sensitivity towards human relations that managers must develop to benefit from co-innovation.

We hope to be able to pursue these directions within the coming SDU Design research environment in the Kolding Campus, which is largely organised based on the SPIRE model of cross-disciplinary research.

Publications

ANTHROPOLOGY

Books and collections

Gunn, W. & Donovan, J. (Eds.) (2012). *Design and Anthropology. Anthropological Studies of Creativity and Perception.* Farnham, Surrey: Ashgate.

Gunn, W., Otto,T. & Smith, R.C.(Eds) (in press). *Design Anthropology: Theory and Practice.* London: Berg.

Gunn, W. (Ed) (2009). *Fieldnotes and Sketchbooks: Challenging the Boundaries Between Descriptions and Processes of Describing.* Frankfurt am Main: Peter Lang.

Journal papers

Jaffari, S. & Buur, J. (accepted). Reconciling energy with a comfortable indoor climate: a practice-oriented design perspective. *Journal of Business Anthropology.*

Book chapters

Day, D. (2012). Hearing Poorly with Skill. In: W. Gunn & J. Donovan (Eds.), *Design and Anthropology* Farnham, Surrey: Ashgate. 45-56.

Donovan, J. & Gunn, W. (2012). Moving from Objects to Possibilities. In: W. Gunn & J. Donovan (Eds.), *Design and Anthropology.* Farnham, Surrey: Ashgate. 121-134.

Gunn, W. & Donovan, J. (2012). Design Anthropology: An Introduction. In: W. Gunn and J. Donovan (Eds.), *Design and Anthropology.* Farnham, Surrey: Ashgate. 1-16.

Kilbourn, K. (2012). The Patient as Skilled Practitioner. In: W. Gunn and J. Donovan (Eds.), *Design and Anthropology* Farnham, Surrey: Ashgate. 35-44.

Larsen, H. & Have, C. (2012). Emergence of User Identity in Social Interaction. In: W. Gunn and J. Donovan (Eds.), *Design and Anthropology.* Farnham, Surrey: Ashgate. 135-148.

Rolfstam, M. & Buur, J. (2012). An Institutional View of User improvisation and Design. In: W. Gunn and J. Donovan (Eds.)*Design and Anthropology.* Farnham, Surrey: Ashgate. 69-79

Clark, B. (in press). Generating Publics Through Design Activity. In: Gunn, W., Otto, T. & Smith, R. C. (Eds.), *Design Anthropology: Theory and Practice.* London: Berg.

Gunn, W. & Clausen, C. (in press). Conceptions of Innovation and Practice: Designing Indoor Climate. In: Gunn, W., Otto, T. & Smith, R. C. (Eds.), *Design Anthropology: Theory and Practice.* London: Berg.

Kilbourn, K. (in press). Tools and Movements of Engagement: Design Anthropology's Style of Knowing. In: Gunn, W., Otto, T. & Smith, R. C. (Eds.), *Design Anthropology: Theory and Practice.* London: Berg.

Conference papers

Asboe, M. (2008). Design anthropologists' role in SMEs: unveiling aptitude and attitude. In: *Proceedings of the Ethnographic Praxis in Industry Conference (EPIC '08).* Copenhagen, Denmark. 274-285.

Buur, J. & Sitorus, L. (2008). Cut it out in cardboard. In: *Proceedings of the Ethnographic Praxis in Industry Conference (EPIC '08).* Copenhagen, Denmark. 325.

Buur, J. & Arnal, L. (2008). Directors of the Future. Panel report. In: *Proceedings of the Ethnographic Praxis in Industry Conference (EPIC '08).* Copenhagen, Denmark. 334-337.

Buur, J. & Mack, A. (2009). Social Shaping of Innovation. Workshop description. In: *Proceedings of the Ethnographic Praxis in Industry Conference (EPIC '09).* Chicago, USA. 290-291.

Halse, J. & Clark, B. (2008). Design Rituals and Performative Ethnography. In: *Proceedings of the Ethnographic Praxis in Industry Conference (EPIC '08).* Copenhagen, Denmark. 128-145.

Larsen, M. M. (2008) Tales from the kitchen. Added value, or constructed value? (Position paper) *CHI 08 Workshop: Value, Values and Worth.* Florence, Italy.

Sitorus, L., Donovan, J. & Jensen, M. (2008). Excavating Parameters. In: *Proceedings of the Ethnographic Praxis in Industry Conference (EPIC '08).* Copenhagen, Denmark. 358-359.

Popular texts

Gunn, W. (2010). Review of 'Of Orderlies and Men: Hospital Porters Achieving Wellness at Work' by Nigel Rapport . In: *Journal of the Royal Anthropological Institute.* 437-438.

PhD Dissertations

Jaffari, S. (2012). *Everyday Comfort Practice: A Design Ethnographic Approach to Sustainable Indoor Climate and Technology.* PhD Dissertation, Mads Clausen Institute, University of Southern Denmark.

Kilbourn, K. (2008). *The Patient as Skilled Practitioner: A Design Anthropology Approach To Enskillment in Health and Technology.* PhD Dissertation, Mads Clausen Institute, University of Southern Denmark.

Larsen, M. M. (2010). *User Values in Interaction Design. A cross-disciplinary exploration of everyday kitchen practice.* PhD Dissertation, Mads Clausen Institute, University of Southern Denmark.

ENGINEERING

Books and collections

Buur, J. (Ed.) (2012). *Making Indoor Climate: Enabling people's comfort practices.* Sønderborg: University of Southern Denmark

Buur, J. & Oinonen, S. (2011). *Video Design Hopscotch/ Video Design Hinkesten.* Sønderborg: University of Southern Denmark

Buur, J. (Ed.) (2011). *Participatory Innovation Conference Proceedings.* Sønderborg: University of Southern Denmark.

Journal papers

Donovan, J., Heinemann, T., Matthews, B. & Buur, J. (2011). Getting the point: The role of gesture in managing intersubjectivity in a design activity. *Artificial Intelligence for Engineering Design, Analysis and Manufacturing* 25. 221-235.

Jaffari, S. & Matthews, B. (2009). From occupying to inhabiting – a change in conceptualizing comfort. *IOP Conference Series: Earth and Environmental Science* 8. 1-14.

Jaffari, S. (2009). Re-constructing the comfort zone. *Journal of Green Building 4(4).* 134-147.

Have, C. (2010) Ansvarlighed og Styring – et eksperimentelt perspektiv. *Økonomistyring & Informatik 25 (4). 335-356*

Book chapters

Have, C. (2011) Det gælder om at have styr på tingene uden at styre. In E. Sørensen and J. Torfing (Eds.), *Samarbejdsdrevet Innovation i den Offentlige Sektor:* Copenhagen: Jurist- og Økonomforbundets Forlag. 279-295.

Conference papers

Clausen, C. & Yoshinaka Y. (2009). The Role of Devices in Staging Front End Innovation. In: *Proceedings of the First International Conference on Integration of Design, Engineering and Management for Innovation (IDEMI '09)*, Porto, Portugal, 1-8.

Clausen, C. & Yoshinaka, Y. (2010). The role of devices in the configuration of innovative processes - Front End Innovation as object for management and staging. In: *Digital proceedings of the European Association for the study of Science and Technology (EASST '10).* Trento, Italy.

Gish, L., Clausen, C. & Hansen, C.T. (2009). A Case Study of Idea Work in the Early Phases of Product Development. In: *Proceedings of the 17th International Conference on Engineering Design (ICED '09).* Stanford, California. 447-458.

Jaffari, S., Boer, L. & Buur, J. (2011). Actionable Ethnography in Participatory Innovation: A Case Study. In: *Proceedings of The 15th World Multi-conference on Systemics, Cybernetics and Informatics.* Orlando, Florida. 100-106.

PhD Disserations

Kelly, J. (forthcoming) *Designing for a relationship other than use.* Industrial PhD Dissertation, Novo Nordisk and Mads Clausen Institute, University of Southern Denmark.

MEDICAL SCIENCE

Journal papers

Matthews, B. & Heinemann, T. (2009). Technology use and patient participation in audiological consultations. *Australasian Medical Journal* 1(10). 36-43.

PARTICIPATORY INNOVATION

Conference papers

Ankenbrand, B. & Buur, J. (2012). Staging New Business Relations with a Booking Site Provider. In: *Digital proceedings of the 2nd Participatory Innovation Conference (PIN-C '12).* Melbourne, Australia.

Beuthel, M. & Buur, J. (2013). Objects Can Represent Very Different 'Things'. In: *Proceedings of the 3rd Participatory Innovation Conference (PIN-C '13).* Lahti, Finland.

Boer, L. (2013). Giving critical form to organizational vision as tool for introspection. In: *Proceedings of the 3rd Participatory Innovation Conference (PIN-C '13).* Lahti, Finland.

Boer, L. (2011). Participatory provocation? In: *Proceedings of the 1st Participatory Innovation Conference (PIN-C '11).* Sønderborg, Denmark. 21-26.

Bogers, M. & Larsen, H. (2012). The Role of Improvisation in Processes of Innovation. In: *Digital proceedings of the 2nd Participatory Innovation Conference (PIN-C '12).* Melbourne, Australia.

Buur, J. & Finnemann, W. (2011). Business Case: Sustainable Energy for De-mining Operations. In: *Proceedings of the 1st Participatory Innovation Conference (PIN-C '11).* Sønderborg, Denmark. 323-327.

Buur, J. & Mitchell, R. (2011). The Business Modeling Lab. In: *Proceedings of the 1st Participatory Innovation Conference (PIN-C '11).* Sønderborg, Denmark. 368-374.

Buur, J. & Ankenbrand, B. (2012). Comparing Methods of Value Network Innovation. In: *Digital proceedings of the 2nd Participatory Innovation Conference (PIN-C '12),* Melbourne, Australia.

Buur, J. & Beuthel, M. (2013). Skilled Toy Train Discussions about Business Innovation. In: *Proceedings of the 3rd Participatory Innovation Conference (PIN-C '13).* Lahti, Finland.

Clark, B., Önal, B. & Lindemalm, K. (2011). Improv Design Troupe: Designing in and out of Context. In: *Proceedings of the 1st Participatory Innovation Conference (PIN-C '11),* Sønderborg, Denmark.160-167.

Clark, B. & Lahtivuori, M. (2011). Project-in-a-day: From Concept Mock-ups to Business at Play. In: *Proceedings of the 1st Participatory Innovation Conference (PIN-C '11).* Sønderborg, Denmark. 143-149.

Day, D. (2011). Hearing Aids With No Batteries. In: *Proceedings of the 1st Participatory Innovation Conference (PIN-C '11),* Sønderborg, Denmark. 76-79.

De Lille, C. & Asboe, M. (2011). Research Methods for Understanding Participatory Innovation in SME. In: *Proceedings of the 1st Participatory Innovation Conference (PIN-C '11).* Sønderborg, Denmark. 123-129.

Gottlieb, F. & Sørensen, V. (2012). Participatory Activities in Practice. In: *Proceedings of the 12th Danish HCI Research Symposium (DHRS)*, Sønderborg, Denmark. 8-13.

Gottlieb, F., Larsen, H. & Sørensen, V. (2013). Multi stakeholder innovation. In: *Proceedings of the 3rd Participatory Innovation Conference (PIN-C '13).* Lahti, Finland.

Heinemann, T. (2011). First came the egg: the positioning and shaping of competing design proposals. In: *Proceedings of the 1st Participatory Innovation Conference (PIN-C '11).* Sønderborg, Denmark. 51-57.

Hjaltadóttir, R. E. (2011). Endogenous Institutions for User-producer Interaction in Public Procurement of Innovation. In: *Proceedings of the 1st Participatory Innovation Conference (PIN-C '11).* Sønderborg, Denmark. 388-395.

Kilbourn, K. & Bay, M. (2011). Exploring the Role of Robots: Participatory Peformances to Ground and Inspire Innovation. In: *Proceedings of the 1st Participatory Innovation Conference (PIN-C '11).* Sønderborg, Denmark.168-172.

Landgrebe, J. (2011) Intersubjectivity: Interactional Trouble Sourcing and 'Problem Pictures'. In: *Proceedings of the 1st Participatory Innovation Conference (PIN-C '11).* Sønderborg, Denmark. 32-37.

Maarse, J. H. (2011) Business Case: Cradle-to-cradle Implementation at Desso. In: *Proceedings of the 1st Participatory Innovation Conference (PIN-C '11).* Sønderborg, Denmark. 366-370.

Mack, A., Clark, B., Buur, J & Larsen, H. (2013). Principles in the social shaping of innovation. In: *Proceedings of the 3rd Participatory Innovation Conference (PIN-C '13).* Lahti, Finland.

Mitchell, R. & Raudaskoski, P. (2013). Whose line is it anyway? Collaborative turnmaking. In: *Proceedings of the 3rd Participatory Innovation Conference (PIN-C '13).* Lahti, Finland.

Oorschot, R. van (2013). How tangible arrows create innovative relations. In: *Proceedings of the 3rd Participatory Innovation Conference (PIN-C '13).* Lahti, Finland.

Perez, E.G.A. (2011). Exogenous Institutional Re-design for Successful Procurement of Innovation: the Case of the Public Health Sector in Southern Denmark. In: *Proceedings of the 1st Participatory Innovation Conference (PIN-C '11).* Sønderborg, Denmark. 396-401.

Raudaskoski, P. & Mitchell, R. (2013). The situated accomplishment (aesthetics) of being a cyranoid. In: *Proceedings of the 3rd Participatory Innovation Conference (PIN-C '13)*. Lahti, Finland.

Sproedt, H. (2012). Innovation as Social Practice. In: *Digital proceedings of the 2nd Participatory Innovation Conference (PIN-C '12)*. Melbourne, Australia.

Torguet, R., Friis, P. & Buur, J. (2013). *User Ethnography as Theatre. In: Proceedings of the 3rd Participatory Innovation Conference (PIN-C '13)*. Lahti, Finland.

Wagner, J. (2012). Positioning and Re-positioning Self and Other in Staged Business Relation Networks. In: *Digital proceedings of the 2nd Participatory Innovation Conference (PIN-C '12)*. Melbourne, Australia.

Wozniak, B. (2011). Business Case: Daylight Systems of Servodan. In: *Proceedings of the 1st Participatory Innovation Conference (PIN-C '11)*. Sønderborg, Denmark. 337-340.

Önal, B., Clark, B., and Lindemalm, K. (2011). Improv Design Troupe: Designing in and out of Context. In: *Proceedings of the 1st Participatory Innovation Conference (PIN-C '11)*. Sønderborg, Denmark. 160-167.

EDUCATION

Books and collections

Stenger, M. & Rolfstam, M. (Eds.) (2011). *Reflections on University Teaching: A Collection of Perspectives*. Sønderborg: University of Southern Denmark.

Journal papers

Gunn, W. (2009). Learning to Ask Naive Questions with IT Product Design Students. In: *Arts & Humanities in Higher Education 7(3)*. 323-336.

Bogers, M., & Sproedt, H. (2012). Playful Collaboration (Or Not): Using a Game to Grasp the Social Dynamics of Open Innovation in Innovation and Business Education. *Journal of Teaching in International Business 23*. 75-97.

Conference papers

Bogers, M. & Sproedt, H. (2011). Playful Collaboration (or Not): Using a Game to Teach Open Innovation concepts and Practices. In: *Digital Proceedings of the 12th international CINet conference*. Aarhus, Denmark.

Book chapters

Bogers, M. (2011). Student-oriented Teaching by Using an Open Innovation Game. In: Stenger and Rolfstam, M. (Eds.), *Reflections on University Teaching: A Collection of Perspectives*. Sønderborg: University of Southern Denmark.

Rolfstam, M. (2011). Reflections on Teaching Innovation.In: Stenger and Rolfstam, M. (Eds.), *Reflections on University Teaching: A Collection of Perspectives*. Sønderborg: University of Southern Denmark. 59-69.

Rolfstam, M. & Stenger, M. (2011). Yet Another Book on Teaching..? In: Stenger and Rolfstam, M. (Eds.), *Reflections on University Teaching: A Collection of Perspectives*. Sønderborg: University of Southern Denmark. 6-9.

BUSINESS

Journal papers

Hollensen, S. & Wulff, V. (2010). Global Account Management (GAM)-Creating companywide and worldwide relationships to global customers. *International Journal of Customer Relationship Marketing and Management* 1(1). 28-47.

Pedrosa, A. (2009). Motivating Stakeholders for Co-created Innovation. *The Open Source Business Resource*. 35–39.

Gerstlberger, W., Kreuzkamp, M. & Pedrosa, A. (2010). Innovation Management in the German Savings Banks Association-Appraisal and Perspectives. *Innovative Marketing* 6(3). 60-61.

Pedrosa, A. & Blazevic, V. (2010) Customer Integration in New Service Development. *The European Marketing Academy (EMAC)*.

Conference papers

Jensen, H. R. (2010). A Means-End Approach to Understanding Consumer-Driven Innovation. *Paper presented at the Conference on Consumer Behaviour*. Istanbul, Turkey.

Wulff, V. (2011). Exploring inter-organizational new product development in strategic multinational dyads. *Paper presented at the International Conference on Emerging Research Paradigms in Business and Social Sciences*. Dubai, United Arab Emirates.

PhD Disserations

Wulff, V. (under revision) *Exploring Inter-firm R&D Activities in Strategic Dyads - a Multinational Supplier Perspective*. PhD Dissertation, Department of Border Region Studies, University of Southern Denmark

DESIGN

Books and collections

Halse, J., Brandt, E., Clark, B. & Binder, T. (2010). *Rehearsing the Future*. Copenhagen: The Danish Design School Press.

Matthews, B. (Ed) (2011). *Designing motivation: a cursory survey*. Sønderborg: Faculty of Science and Engineering, University of Southern Denmark.

Matthews, B. & Buur, J. (2008). *Participation and Innovation: proceedings of the 4th Student Interaction Design Research Conference (SIDeR08)*. Sønderborg, Denmark: Mads Clausen Institute.

Wensveen, S.A.G. (2012). *Proceedings of the 12th Danish HCI Research Symposium*. Sønderborg, Denmark: Mads Clausen Institute.

Journal papers

Boer, L., Donovan, J. & Buur, J. (Forth). Challenging industry conceptions with provotypes. *CoDesign: International Journal of CoCreation in Design and the Arts*.

Brereton, M. & Buur, J. (2008). New challenges for design participation in the era of ubiquitous computing. *Co-design: International Journal of CoCreation in Design and the Arts, 4(2)*. 101-113.

Buur, J. & Larsen, H. (2010). The Quality of Conversations in Participatory Innovation. *CoDesign: International Journal of CoCreation in Design and the Arts, 6(3)*. 121-138.

Buur, J., Ankenbrand, B. & Mitchell, R. (2013). Participatory Business Modelling. *CoDesign: International Journal of CoCreation in Design and the Arts 9(1)*. 55–71.

Deckers, E. J. L., Levy, P. D., Wensveen, S. A. G., Ahn, R. M. C., & Overbeeke, C. J. (2012). Designing for perceptual crossing: Applying and evaluating design notions. *International Journal of Design, 6(3)*. 41-55.

Heinemann, T., Landgrebe, J. & Matthews, B. (2012). Collaborating to restrict: A Conversation Analytic perspective on collaboration in design. *CoDesign: International Journal of CoCreation in Design and the Arts, 8(4)*. 200-214.

Heinemann, T., Mitchell, R. & Buur, J. (2009). Co-constructing meaning with materials in innovation workshops. In: B. Darras and Belkhamsa, S. (Eds.), *Objets et Communication, MEI, n. 30-31*. Paris: Aujourd'hui. 289-304.

Jaffari, S. & Matthews, B. (in press). Aiming to miss: lessons for design research from the study of everyday energy practices. *Journal of Design Research*.

Kuusk, K., Tomico, O., Langereis, G. & Wensveen, S.A.G. (2012). Crafting Smart Textiles – a Meaningful Way Towards Societal Sustainability in the Fashion Field? *Nordic Textile Journal 1*. 7-15.

Matthews, B. (2009). Intersections of brainstorming rules and social order. *Co-design, International Journal of CoCreation in Design and the Arts, 5 (1)*. 65-76. Reprinted in McDonnell, J. & Lloyd, P. (Eds.), *About: designing – analysing design meetings*. London: Taylor & Francis. 33-47.

Matthews, B. & Heinemann, T. (2012). Analysing conversation: studying design as social action. *Design Studies 33(6)*. 649-672.

Matthews, B. & Horst, W. (2009). What can we learn from the probes? The role of interpretation in contributions to knowledge. *Working papers in art and design 5 (online journal)*.

Matthews, B., Stienstra, M. & Djajadiningrat, J. P. (2008). Emergent interaction: creating spaces for play. *Design Issues 24 (3)*. 58-71.

Ross, P.R., Overbeeke, C.J., Wensveen, S.A.G. & Hummels, C.C.M. (2012). Designing for to kalon: how the unity of beauty and good inspires interactive product design. *International Journal of Product Development 16(3-4)*. 187–206.

Book chapters

Kelly, J. (2012). Crafting "solvable" problems in the design process. In Rodgers, P. (Ed.), *Articulating design thinking*. Oxfordshire: Libri Publishing. 189-205

Matthews, B. (2012). Conversation analysis and design. In: Carol A. Chapelle (Ed) *The encyclopedia of applied linguistics*. Oxford, U.K.: Wiley - Blackwell.

Mitchell, R. (2013). Tangible business model sketches to facilitate intersubjectivity and creativity in innovation. In: Müller, A.P. & Becker, L. (Eds.) *Narrative and Innovation: New Ideas for Business Administration, Strategic Management and Entrepreneurship*. Wiesbaden, Springer VS. 131-138.

Breuer, O., Caglio A., Gottlieb F., Groskovs S., Hiltunen A., Navarro Sanint M. & Schewe B. (2012). The facets of design thinking. In: Rodgers, P. (Ed.), *Articulating Design Thinking*. Oxfordshire: Libri Publishing. 171-188.

Conference papers

Bhömer ten, M., Tomico, O., Kleinsmann, M., Kuusk, K. & Wensveen, S.A.G. (2012). Designing Smart Textile Services through value networks, team mental models and shared ownership. In: *Digital Proceedings of The Service Design and Innovation Conference (ServDes '12)*. Helsinki Finland.

Blauhut, D. & Buur, J. (2009). What video styles can do for user research. In: *Digital proceedings of the Nordic Design Research Conference (NORDES '09)*. Oslo, Norway.

Beuthel, M. & Buur, J. (2012). Why a Train Set Helps Participants Co-Construct Meaning in Business Model Innovation (Position paper). In: *Proceedings of the Participatory Design Conference (PDC '12)*. Roskilde, Denmark.

Boer, L. & Donovan, J. (2012). Provotypes for participatory innovation. In: *Proceedings of the 9th ACM Conference on Designing Interactive Systems (DIS '12)*. Newcastle, UK. 388-397.

Buur, J. & Fraser, E. (2010). Video Field Studies with your Cell Phone. (Tutorial description) In: *Digital Proceedings of OzCHI '10*. Brisbane, Australia.

Buur, J. (2012). Participatory Design of Business Models. (Workshop description). In: *Proceedings of the Participatory Design Conference (PDC '12)*. Roskilde, Denmark. 147.

Buur, J. (2012). The Role of Design in Business Model Innovation. (Keynote lecture). *P&D Design 10th Conference on Design Research and Development*. Sao Luis, Brazil.

Buur, J. (2012). Video Field Studies with your Cell Phone. (Tutorial description). *P&D Design 10th Conference on Design Research and Development*. Sao Luis, Brazil.

Buur, J., Beuthel, M. & Caglio, A. (2013). 'Designerly' Analysis of Participation Structures. In: *Proceedings of the Nordic Design Research Conference (NORDES '13)*. Copenhagen-Malmö, Denmark-Sweden.

Buur, J. & Larsen, H. (2010). Crossing Intentions in Participatory Innovation. In: *Proceedings of the Participatory Design Conference (PDC '10)*. Sydney, Australia. 251-254.

Buur, J. & Gudiksen, S. (2012). Interactive Pinball Business. In: *Proceedings of the Nordic Human Computer Interaction Conference (NordiCHI '12)*. Copenhagen, Denmark. 129-138.

Buur, J., & Matthews, B. (2008). Participatory innovation-a research agenda. In: *Proceedings of the Participatory Design Conference (PDC '08)*. Bloomington, USA. 186-189.

Buur, J., Fraser, E., Oinonen, S. & Rolfstam, M. (2010). Ethnographic Video as Design Specs. In: *Proceedings of the OzCHI '10 Conference*. Brisbane, Australia. 49-56.

Caglio, A. & Buur, J. (2012). Dynamic Materials do the Trick in Participatory Business Modeling (Position paper). In: *Proceedings of the Participatory Design Conference (PDC '12)*. Roskilde, Denmark.

Caglio, A. & Buur, J. (2012). Creating engagement with old research videos. In: *Digital Proceedings of the 1st International Symposium on Pervasive Displays (PerDis)*. Porto, Portugal.

Caglio, A. & Gao, T. (2012). Inspiring Coffee Breaks: Exploring New Ways and Times to Reuse Old Footage. In: *Proceedings of the Student Interaction Design Conference (SIDeR'12)*. Gothenburg, Sweden. 25-28.

Chaboki, B., van Oorschot, R., Torguet, R., Wu, Y. & Yao, J. (2012). Interaction Design Feedback and Feed Forward Framework: Making the Interaction Frogger Tangible. In: *Proceedings of the Student Interaction Design Conference (SIDeR '12)*. Gothenburg, Sweden. 33-36.

Clark, B., Wagner, J., Lindemalm, K. & Bendt, O. (2011). Språkskap: Supporting Second Language Learning "In the Wild". In: *Digital proceedings of the International Conference on Inclusive Design (INCLUDE)*. London, UK.

de Lille, C. & Buur, J. (2010). Participatory Innovation in SMEs. (Workshop description) In: *Proceedings of the Participatory Design Conference (PDC '10)*. New York, USA. 277-278.

Clark, B. (2008). Resources for Action in the Negotiation of Participatory Design Projects. In: *Proceedings of the Participatory Design Conference (PDC '08)*. Bloomington, USA. 206-209.

Clark, B. & D. A. Clark (2009). 'Contributive Performances'-Learning in the Margins. In: *Digital proceedings of the International Conference on Inclusive Design (INCLUDE)*. London, UK.

Deckers, E.J.L., Levy, P., Wensveen, S.A.G. & Ahn, R.M.C. (2013). Designing for Perceptual Crossing: Designing and Comparing Three Behaviors. In: *Proceedings of ACM SigCHI conference on Human factors in computing systems (CHI '13)*. Paris, France.

Donovan, J. & Stienstra, M. (2010). 'Staying in Touch and Crafting Momentoes', Workshop on Designing and Evaluating Affective Aspects of Sociable Media to Support Social Connectedness. (position paper) In: *Digital Proceedings of the 28th Conference on Human Factors in Computing Systems (CHI '10)*. Atlanta, Georgia, USA.

Donovan, J. & Mitchell, R. (2010). Social contraptions and embodied facilitation. In: *Proceedings of the 12th ACM international conference adjunct papers on Ubiquitous Computing (UBICOMP '10)*. Copenhagen, Denmark. 403-404.

Groskovs, S. (2011). Design Talks Business: The Venture Tower Game. In: *Proceedings of the Student Interaction Design Conference (SIDeR '11)*. Copenhagen, Denmark. 37-40.

Heinemann, T., Boess, S., Landgrebe, J., Mitchell, R. & Nevile, M. (2011). Making sense of "things": Developing new practices and methods for using tangible materials in collaborative processes. In: *Proceedings of the 2nd ACM Conference on Creativity and Innovation in Design (DESIRE '11)*. Eindhoven, The Netherlands. 221-225.

Publications by discipline

Horst W. & Larsen M.M. (2009). Design to Scaffold User Innovation. In: *Proceedings of the Conference on Designing Pleasurable Product and Interfaces (DPPI '09)*. Compiegne, France. 13-16.

Horst, W. (2011). Supportive Tools for Collaborative Prototyping. Design Case. In: *Proceedings of the Nordic Design Research Conference (NordiCHI '11)*. Helsinki, Finland. 318-323.

Kelly, J. & Matthews, B. (2010). Taking transition into account: designing with pre-users of medical devices. In: *Proceedings of the Participatory Design Conference (PDC '10)*. Sydney, Australia. 71-80.

Kjeldsen M.P. & Matthews, B. (2008). Talking about hearing: designing from users' problematisations. In: *Proceedings of the Nordic Conference on Human Computer Interaction (NordiCHI 2008)*. Lund, Sweden. 531-534

Larsen, M. M. (2008). Designing for context. Values-in-action to bridge design and business. *Proceedings of the 6th Conference on Design and Emotion*. Hong Kong.

Martens, R. (2012). Developing and understanding the experience created by video games. In: *Proceedings of the Student Interaction Design Conference (SIDeR '12)*. Gothenburg, Sweden. 68-71.

Matthews, B. (2010). Can we measure emotions for design? In: *CEPHAD Conference '10*. Copenhagen, Denmark. 101-104.

Mattelmäki, T. & Matthews, B. (2009). Peeling apples: prototyping design experiments as research. In: *Digital Proceedings of the Nordic Design Research Conference (NORDES '09)*. Oslo, Norway.

Matthews, B. & Horst W. (2008). Interpreting contributions to knowledge in arts and design: a case study. In: *Proceedings of the 5th Research into Practice Conference*. London, UK. 123-126.

Mitchell, R., Buur, J. and Caglio A. (2013). Oops! Moments: Kinetic material in participatory workshops. In: *Proceedings of the Nordic Design Research Conference (NORDES '13)*. Copenhagen-Malmo. Denmark-Sweden.

Mitchell, R. (2009). Physical contraptions as social interaction catalysts. In: *Proceedings of the 3rd International Workshop on Physicality*. Cambridge, UK. 37-42.

Mitchell, R. (2009). An in your face interface: revisiting cyranoids as a revealing medium for interpersonal interaction. In: *Proceedings of the Student Interaction Design Conference (SIDER '09)*. Eindhoven, The Netherlands. 56-59.

Mitchell, R. & Buur, J. (2010). Tangible business model sketches to support participatory innovation. In: *Proceedings of the 1st ACM Conference on Creativity and Innovation in Design (DESIRE '10)*. Aarhus, Denmark. 29-33.

Mitchell, R., Gillespie, A. & O'Neill, B. (2011). Cyranic Contraptions: Using Personality Surrogates to Explore Ontologically and Socially Dynamic Contexts. In: *Proceedings of the 2nd ACM Conference on Creativity and Innovation in Design (DESIRE '11)*. Eindhoven, The Netherlands. 199–210.

Mitchell, R. (2011). Scaffolding codesign with an amateur quality comic. In: *Digital Proceedings of the Nordic Design Research Conference (NORDES '11)*. Helsinki, Finland.

Mitchell, R. & Nørgaard M. (2011). Expert & amateur sketching brings voices to young and old users in participatory design. In: *Digital Proceedings of the 4th World Conference on Design Research, International Association of Societies of Design Research (IASDR '11)*. Delft, The Netherlands.

Mitchell, R. (2012). Social Contraptions and Collective Appropriation. In: *Proceedings of Danish HCI Research Symposium*. Sønderborg, Denmark. 27-31.

Mitchell, R. (2012). Social Contraptions as Breaching Environments. In : *Proceedings of the Sixth International ACM Conference on Tangible, Embedded and Embodied Interaction (TEI '12)*. Kingston, Canada. 393–394.

Mitchell, R. (2013). Knowing Me, Knowing Them, Knowing Each Other : Paradoxes of Interpersonal Interaction. In: *Knowing by Designing Conference.* Brussels, Belgium.

Mitchell, R. (2013). Dumb interventions: invigorating participation. In: *Proceedings of Codes of Engagement (CAS/CADE Conference '13)*. Bristol, UK.

Mitchell, R. & Nørgaard, M. (2011). Using DIY cartoon storyboards, live sketching and co-sketching to involve young and older users in participatory design. In: *Digital Proceedings of the 4th World Conference on Design Research, International Association of Societies of Design Research (IASDR)*. Delft, The Netherlands.

Mitchell, R. (2011). Physical social contraptions sparking inspiration for understanding interaction in and with dynamic contexts. In: *Digital Proceedings of CHI Sparks, Arnhem*. The Netherlands.

Orlova, G. (2012). Robotics and Automation in Modern Workplaces. In: *Proceedings of Student Interaction Design Conference (SIDeR '12)*. Gothenburg, Sweden. 86-88.

Stienstra, J., Alonso, M. B., Wensveen, S.A.G., & Kuenen, S. (2012). How to design for transformation of behavior through interactive materiality. In: *Proceedings of the 7th Nordic Conference on Human-Computer Interaction (NordiCHI '12)*. Copenhagen, Denmark. 21-30.

van Oorschot, R., Lima, P., Chaboki, B. & Serban, C. (2013). FLOW: Tangible Design Process. In: *Proceeding of the Student Interaction Design Conference (SIDeR '13)*. Aarhus, Denmark.

Popular texts

Horst, W. & Bogers, M. (2012). Collaborative prototyping af termostatbetjening. Forskning for enhver. *Årbog-Videnskabelige artikler fra Campus Sønderborg.*

Kelly, J. & Matthews, B. (2011). Når før-brugere bidrager til design af medicinske produkter. In: *Forskning for enhver.Årbog 2010 - Videnskabelige artikler fra Campus Sønderorg*. 48-57.

PhD Dissertations

Boer, L. (2012). *How Provotypes Challenge Stakeholder Conceptions in Innovation Projects*. PhD Dissertation, Mads Clausen Institute, University of Southern Denmark.

Horst, W. (2011). *Prototypes as Platform for Participation. Designing prototypes for collaborative product development*. PhD Dissertation, Mads Clausen Institute, University of Southern Denmark.

Jensen, M. V. (2008). *Tangible Interaction in Industrial Plants*. PhD Dissertation, Mads Clausen Institute, University of Southern Denmark.

Mitchell, R. (forthcoming). *Provoking Risky Encounters: Balancing Intra Group Interdependencies*. PhD Dissertation, Mads Clausen Institute, University of Southern Denmark

POLICY

Journal papers

Hommen, L. & Rolfstam, M. (2009). Public Procurement and Innovation: Towards a Taxonomy. *Journal of Public Procurement*, 9(1). 17-30.

Rolfstam, M. (2009). Public Procurement as an Innovation Policy Tool: the Role of Institutions. *Science and Public Policy, 36(5).* 349-360.

Rolfstam, M., Phillips, W. & Bakker, E. (2011). Public procurement and the diffusion of innovations: exploring the role of institutions and institutional coordination. *International Journal of Public Sector Management, 24 (5).*1-21

Book chapters

Göransson, B. & Rolfstam, M. (2010). Setting the Agenda. In: Göransson, B. (Ed.), *Gender-Specific Research and Development. How Women Researchers Respond to the Needs of Women End-users in China, Poland and Sweden*. 9-22. Research Policy Institute. Lund. ISBN 978-91-86113-12-4.

Rolfstam, M. & Göransson, B. (2010). Gender-specific Aspects of Use of Technology: Evidence from Sweden. In: Göransson, B. (Ed.), *Gender-Specific Research and Development: How Women Researchers Respond to the Needs of Women End-users in China, Poland and Sweden*. Lund. ISBN 978-91-86113-12-4. 237-251.

Conference papers

Göransson, B. & Rolfstam, M. (2009). Development of Gender-Specific Technologies. Evidence from China, Poland and Sweden. *Paper presented at the 7th International Conference on The Global Network for the Economics of Learning, Innovation, and Competence Building Systems (Globelics)*, Dakar, Senegal.

Rolfstam, M. (2009). Public Procurement as User Innovation-How Can Theory Inform Practice? *Paper presented at the User and Open Innovation Workshop*. Hamburg, Germany.

Rolfstam, M. (2009). Public Procurement of Innovation and Risk Management: Concepts, Issues and Possibilities for Future Research. *Paper presented at the 18th Annual International Purchasing and Supply Education and Research Association (IPSERA) Conference, nr. 18*. Oestrich-Winkel, Germany.

Rolfstam, M. (2009). Public Procurement of Innovation as Network Governance. *Paper presented at the International Conference on Governance Networks: Democracy, Policy Innovation and Global Regulation*. Sørup Mansion, Denmark.

Rolfstam, M. (2010). Early Involvement of Stakeholders in Public Procurement of Innovation: The Case of the Biogas and Upgrading Plant. *Paper presented at the 19th Annual International Purchasing and Supply Education and Research Association (IPSERA) Conference*. Lappeenranta, Finland.

Rolfstam, M. (2010). A Tentative Model of a Demand System for Public Procurement of Innovation. *Paper presented at the International Public Procurement Conference*. Seoul, South Korea.

Rolfstam, M. (2010). with contributions from P. Fortún, T. Hammer-Jakobsen, R. Ikonen, S. Ikavalko, P. Turkama, P. Aleš, I. Zálišová. Pre-Commercial Procurement: Policies and Cases in "Preco Countries": Preliminary Findings. Paper presented *The 8th Eastern European e|Gov Days: Changing Concepts & eGovernment as a Service*. Prague, Czech Republic.

Rolfstam, M. (2010). Public Procurement of Innovation and Health in Denmark. Paper presented at the *Forum for Dansk Sundhedsøkonomi, Dansk Sundhedsinstitut*. København, Regionernas Hus, Denmark.

Rolfstam, M. (2010). Offentlige indkøb af innovation: Endnu en innovation i det danske OPP-univers? In: *OPP Nyt. 2 halvår*.13-15.

Popular texts

Rolfstam, M. (2010) Public Procurement of Innovation as a Demand-side Policy Instrument for the L:E:D Cluster Initiative. Sønderborg.

Tsipouri, L., Edler, J., Rolfstam, M. & Uyarra, E. (2010) Risk management in the procurement of innovation. Concepts and empirical evidence in the European Union. *The European Commission Expert Group of Public Procurement and Risk Management. Brussels, Belgium: The European Commission.*

Bodewes, H., Hargeskog, S., Müller, L., Ottolander, M., Thevissen, C., Veys, C., Widmark, N. & Rolfstam, M. (2009) Exploring Public Procurement as a Strategic Innovation Policy Mix Instrument. *OMC-PTP Project report. 6th Framework Programme of the European Commission.*

Rolfstam, M., Phillips, W., & Bakker, E. (2009) Public Procurement of Innovation Diffusion: Exploring the Role of Institutions and Institutional Coordination. *CIRCLE Working Paper Series.* Lund, Sweden.

COMMUNICATION

Books and collections

Egbert, M. & Deppermann, A. (Eds.), (2012). *Hearing Aid Communication. Integrating Social Interaction, Audiology and User Centered Design to Improve Communication with Hearing Loss and Hearing Technologies.* Verlag für Gesprächsforschung. Mannheim.

Haddington, P., Keisanen, T., Mondada, L., & Nevile, M. (Eds.), (accepted). *Beyond Multitasking: Multiactivity in Social Interaction.* Amsterdam: John Benjamins.

Nevile, M., Haddington, P., Heinemann, T. & Rauniomaa, M. (Eds.), (accepted). *Interacting with Things: The Sociality of Objects.* Amsterdam: John Benjamins.

Journal papers

Emmertsen, S. & Heinemann, T. (2010). Realization as a Device for Remedying Problems of Affiliation in Interaction. *Research on Language and Social Interaction.* 43, 2. 109-132.

Heinemann, T. (2009). Participation and exclusion in third party complaints. *Journal of Pragmatics*, 41. 2435-2451.

Heinemann, T. (2009). Managing unavoidable conflicts in caretaking of the elderly: Humor as a mitigating resource. *International Journal of the Sociology of Language, 200.* 103-127.

Heinemann, T. (2010). The question-response system of Danish. *Journal of Pragmatics, 42.* 2703-2725.

Heinemann, T. & Travérso, V. (2009). Complaining in interaction. In: Journal of Pragmatics, 41, 12, 2381-2384.

Heinemann, T. (2008). Questions of accountability: Yes-no interrogatives that are unanswerable. *Discourse Studies, 10 (1).* 55-71.

Landgrebe, J. (2012). 'I think-you know' Two epistemic stance markers and their significance in an innovation process. *Språk och Interaktion 3.* 107-131.

Landgrebe, J. & Heinemann, T. (forth). Mapping the epistemic landscape in innovation workshops. *Pragmatics & Society*.

Larsen, T. (2010). Jeg har brug for hjælp: Om anmodninger, alarmopkald og dansk som andetsprog. *Nordisk Tidsskrift for Andetsprogsforskning (2).* 83-106.

Larsen, T. (in press). Dispatching emergency assistance: Callers' claims of entitlement and call-takers' decisions. *Research on Language and Social Interaction.*

Lindström, A. & Heinemann, T. (2009) Good enough: Low-grade assessments in caregiving situations. *Research on Language and Social Interaction, 42 (4).* 309-328.

Matthews, B. (2009). Discerning the relations between conversation and cognition. *Human Studies, 32(4).* 487-502.

Stivers, T., Enfield, N.J., Brown, P., Englert, C., Hayashi, M., Heinemann, T., Hoymann. G., Rossano, F., de Ruiter, J.P., Yoon, K. & Levinson, S. (2009). Turn Taking in Conversation: Universals and cultural variation. In: *Proceedings of the National Academy of Sciences of the USA,* 106 (26). 10587-10592.

Book chapters

Buur, J. (2012). User Centred Design: Usability, experience, enskilment. In: Egbert, M. and Deppermann, A. (Eds.), *Hearing Aids Communication.* Verlag für Gesprächsforschung. Mannheim. 159-163.

Brouwer, C. & Day, D. (2012). A hearing aid consultation: WHO/ICF guidelines and compliance. In: Egbert, M. and Deppermann, A. (Eds.), *Hearing Aids Communication.* Verlag für Gesprächsforschung. Mannheim. 125-137.

Deppermann, A. & Egbert, M. (2012). Conclusions and future perspectives for application and innovation. In: Egbert, M. and Deppermann, A. (Eds.), *Hearing Aids Communication.* Verlag für Gesprächsforschung. Mannheim. 159-163.

Egbert, M. & Deppermann, A. (2012). Introduction to Conversation Analysis with examples from audiology. In: Egbert, M. and Deppermann, A. (Eds.), Hearing Aids Communication. Verlag für Gesprächsforschung. Mannheim. 40-47.

Egbert, M. & Deppermann, A. (2012). Introduction. In: Egbert, M. & Deppermann, A. (Eds.), *Hearing Aids Communication.* Verlag für Gesprächsforschung. Mannheim. 1-8.

Egbert, M., Groeber, S., Damsø Johansen, J., Lonka, E., Meis, M., Pajo, K., Ruusuvuori, J. & Skelt, L. (2012). Hearing health care provision in the national systems of Australia, Denmark, Finland, Germany and Switzerland: Similarities and differences. In: Egbert, M. & Deppermann, A. (Eds.),. *Hearing Aids Communication.* Verlag für Gesprächsforschung. Mannheim. 22-34.

Egbert, M. & Matthews, B. (2012). User Centered Design: From understanding hearing loss and hearing technologies towards understanding interaction. In: Egbert, M. and Deppermann, A. (Eds.), *Hearing Aids Communication*. Verlag für Gesprächsforschung. Mannheim. 48-55.

Heinemann, T., Matthews, B. & Raudaskoski, P. (2012). Hearing aid adjustment: Translating symptom descriptions into treatment and dealing with expectations. In: Egbert, M. & Arnulf, D. (Eds.), *Hearing Aids Communication.* Verlag für Gesprächsforschung. Mannheim. 113-124.

Mortou, E. & Meis, M. (2012). Introduction to audiology: Some basics about hearing loss, hearing technologies and barriers to hearing aid use. In: Egbert, M. & Deppermann, A. (Eds.), *Hearing Aids Communication*. Verlag für Gesprächsforschung. Mannheim. 40-47.

Egbert, M. (2012). Conversation Analysis Applied to User-Centred Design: A Study of Who 'the User' Is. In: Antaki, C. (ed), *Applied Conversation Analysis: Intervention and Change in Institutional Talk.* London: Palgrave. 207-221.

Egbert, M. (2012). Interaktion bei der Tonaudiometrie: Zur Paradoxie der Relevanzmarkierung von Störungen. In: R. Ayaß & Ch. Meyer (Eds.), *Sozialität in Slow Motion: Theoretische und empirische Perspektiven*. Springer, Wiesbaden. 463-479.

Egbert, M. (2012). Technology and social interaction in the multimodal, multispace setting of audiometric testing. In: Okumura, M; Bekki, D.; Satoh, K. (eds.) *New Frontiers in Artificial Intelligence.* Berlin: Springer. 240-252.

Egbert, M. & Keating, E. (2011). Conversation as a Cultural Activity. In: Duranti, A. (ed) *Companion to Linguistic Anthropology.* Malden, Mass: Wiley-Blackwell. 169-196.

Larsen, H. (2011). Improvisational theatre, in Baungaard Rasmussen, L. (Ed.), *Facilitating change, User Interactive Methods in organizations, communities and networks*. Polyteknisk Forlag. 327-354.

Rauniomaa, M. & Heinemann, T. (accepted). Auditory objects in interaction: Negotiating the use of audio entertainment systems and vaccum cleaners. In: Nevile, M., Haddington, P., Heinemann, T. & Rauniomaa, M. (Eds.), *The Sociality of Objects: Interacting with Things.* Amsterdam/Philadelphia: Benjamins.

Heinemann, T. (2011). Roles, relations and the loss of autonomy in caretaking of the elderly in Denmark. In: Backhaus, P. (Ed.), *Communication in Elderly Care; Cross-Cultural Perspectives.* London: Continuum International Publishing Group Ltd. 90-111.

Heinemann, T., Lindström, A. & Steensig, J. (2011). Addressing epistemic incongruence in question-answer sequences through the use of epistemic adverbs. In: Stivers, T., Mondada, L. & Steensig, J. (Eds.), *The Morality of Knowledge in Conversation.* Cambridge University Press. 107-130.

Heinemann, T. (2009). Two answers to inapposite questions. In: J. Sidnell (ed) *Conversation Analysis: Comparative Perspectives.* Cambridge, UK: Cambridge University Press. 159-186.

Heinemann, T. & Matthews, B. (accepted). Concessions in audiology. In: Chevalier, F. & Moore, J. (Eds.), *Institutional constraints.* Amsterdam: John Benjamins .

Nevile, M. (in press). Collaboration in crisis: Pursuing perception through multiple descriptions (how friendly vehicles became damn rocket launchers). In: Mohd Don, Z. & De Rycker, A. (Eds.), *Discourse and crisis: From immediacy to reflection.* Amsterdam: John Benjamins.

Nevile, M. & Wagner, J. (2011). Language Choice and Participation: Two Practices for Switching Languages in Institutional Interaction. In: Pallotti, G. & Wagner, J. (Eds.), *L2 Learning as Social Practice: Conversation-Analytic Perspectives.* Honolulu: National Foreign Language Resource Center, University of Hawai'i at Manoa. 211-236.

Kasper, G. & Wagner, J. (2011). A conversation-analytic approach to second language acquisition. In Atkinson, D. (ed) *Alternative approaches to second language acquisition.* New York: Taylor & Francis. 117-142.

Pallotti, G. & Wagner, J. (2011). Introduction. In: Pallotti, G. & Wagner, J. (Eds.), *L2 Learning as Social Practice: Conversation-Analytic Perspectives.* Honolulu: National Foreign Language Resource Center, University of Hawai'i at Manoa. 1-16.

Conference papers

Day, D. & Browuer, R. (2009). Compliance as an interactive phenomenon. *Paper preented at the Nordic Network on Disability Research Conference.* Nyborg, Denmark.

Egbert, M. (2010). Using Conversation Analysis to Innovate in Hearing Aids Communication and to Understand the Innovation Process. In: *Digital Proceedings of the International Conference on Conversation Analysis.* Mannheim, Germany.

Egbert, M. (2011). Social interaction and technology in testing hearing loss. In: *Proceedings of International Workshop on Multimodality in Multispace Interaction (MiMI 2011).* Kagawa, Japan. 1-12.

Matthews, B. (2008). Language, discourse and psychological vocabulary. In: *Proceedings of the 3rd International Conference on Language, Culture and Mind (LCM 3).* Odense, Denmark. 90-91.

Popular texts

Heinemann, T. (2012). Fra hjem til institution. In Forskning for enhver. *Årbog - Videnskabelige artikler fra Campus Sønderborg.* 81-87.

Heinemann, T. (2011). Nå, ja og hva' så? Talesprogets mange nuancer. *Forskning for enhver. Årbog-Videnskabelige artikler fra Campus Sønderborg*. 76-84.

PhD Dissertations

Landgrebe, J. (2012). *Epistemic and Material Recources for Sense- and Decision- Making in Collaborative Processes of Innovation and Design.* PhD Dissertation. Institute of Business Communication and Information Studies University of Southern Denmark

Storgaard, D. (forthcoming). *Practices of Treatability. A design anthropological study of pre-users of medical devices.* Industrial PhD Dissertation, Oticon and Institute for Design and Communication, University of Southern Denmark.

Mortou, E. (in progress). *Securing understanding in interactions of hearing-impaired with hearing individuals in institutional settings.* PhD topic, Institute for Design and Communication, University of Southern Denmark.

MANAGEMENT

Books and collections

Larsen, H. & Larsen, H. H. (in press) *Relationers betydning for forandring og trivsel.* DJØF's forlag.

Journal papers

Bogers, M. (2011). The Open Innovation Paradox: Knowledge Sharing and Protection in R&D Collaborations. *European Journal of Innovation Management 14(1).* 93-117.

Bogers, M., Afuah, A. & Bastian, B. (2010). Users as Innovators: A Review, Critique, and Future Research Directions. *Journal of Management 36(4).* 857-875.

Bogers, M. & Horst, W. (forthcoming) Collaborative Prototyping: Cross-Fertilization of Knowledge in Prototype-Driven Problem Solving *Journal of Product Innovation Management.*

Bogers, M. & Lhuillery, S. (2011). A Functional Perspective on Learning and Innovation: Investigating the Organization of Absorptive Capacity. *Industry and Innovation 18(6).* 581-610.

Bogers, M. & West, J. (2012). Managing Distributed Innovation: Strategic Utilization of Open and User Innovation. *Creativity and Innovation Management 21(1).* 61-75.

Buur, J. & Matthews, B. (2008). Participatory innovation. *International Journal of Innovation Management 12(3).* 255-273.

Gerstlberger, W., Kreuzkamp, M. & Pedrosa, A. (2010). Innovationsmanagement in gemeinwohlorientierten öffentlichen Unternehmen: Herausforderungen und Chancen amBeispiel der Deutschen Sparkassenorganisation. *Zeitschrift fur Offentliche und Gemeinwirtschaftliche Unternehmen* 33(3). 234-252.

Pedrosa, A., Näslund, D. & Jasmand, C. (2012). Logistics case study based research: Towards higher quality, *International Journal of Physical Distribution & Logistics Management 42(3).* 275-295

West, J. & Bogers, M. (forthcoming) Leveraging External Sources of Innovation: A Review of Research on Open Innovation. *Journal of Product Innovation Management.*

Book chapters

Bogers, M. (2012). Knowledge Sharing in Open Innovation: An Overview of Theoretical Perspectives on Collaborative Innovation. In: de Pablos Heredero, C. & López, D. (Eds.), *Open innovation at Firms and Public Administrations: Technologies for Value Creation.* Hershey, PA : IGI Global. 1-14.

Bogers, M., Bekkers, R. & Granstrand, O. (2012) Intellectual Property and Licensing Strategies in Open Collaborative Innovation. In: de Pablos Heredero, C. & López, D. (Eds.), *Open innovation at Firms and Public Administrations: Technologies for Value Creation.* Hershey, PA : IGI Global. 37-58.

Maarse, J. H. & Bogers, M. (2012) An Integrative Model for Technology-Driven Innovation and External Technology Commercialization. In: de Pablos Heredero, C. & López, D. (Eds.), *Open innovation at Firms and Public Administrations: Technologies for Value Creation.* Hershey, PA : IGI Global, 59-78.

Conference papers

Afuah, A. & Bogers, M. (2011). Why Do Users Innovate? A Theory of the Locus of Innovation. In: *Proceedings of the Conference on Invention, Innovation and Commercialisation with Special Emphasis on Technology Users' Innovation.* Christchurch, New Zealand. 15-35.

Bastian, B., Tucci, C. & Bogers, M. (2011). Natural Resource Constraints and Innovation. In: *Digital Proceedings of the DRUID Conference.* Copenhagen, Denmark.

Bogers, M. & Lhuillery, S. (2010). A Functional Perspective on Open Innovation: The Role of R&D, Manufacturing and Marketing in Learning and Innovation. In: Digital Proceedings of the DRUID Conference, London, UK.

Bogers, M. & Lhuillery, S. (2010). The Role of Openness of R&D, Manufacturing and Marketing in Product and Process Innovation. In: *Digital Proceedings of the 11th International CINet Conference.* Zürich, Switzerland.

Bogers, M. & Lhuillery, S. (2009). Functional Areas as Sources of Learning and Innovation: The Multiple Faces of R&D, Manufacturing and Marketing. *Organizing for Internal and External Knowledge Creation and Innovation: The Role of Resources.* Copenhagen, Danmark

Buur, J. & Gudiksen, S. (2012). Innovating Business with Pinball Designs. In: *Digital Proceedings of the International Design Management Research Conference.* Boston, Massachusets.

Horst, W. & Bogers, M. (2011). Enabling the Prototyper: A Case Study of Collaborative Prototyping. In: *Digital Proceedings of the 18th International Product Development Management (IPDM) Conference.* Delft, The Netherlands.

Pedrosa, A. & Blazevic, V. (2009). Integrating Customers in New Service Development: An Exploratory Study in the Logistics Service Industry. In: *Digital Proceedings of the 10th International CINet Conference.* Brisbane, Australia.

Pedrosa, A. & Jasmand, C. (2011). Individual-Level Absorptive Capacity. In: *Digital Proceedings of the DRUID Conference.* Copenhagen, Denmark.

Pedrosa, A., Jasmand, C., Heidemann Lassen, A. & Laugen, B. T. (2010). Development of a measurement scale for absorbtive capacity at the individual level. In: *Digital Proceedings of the 11th International CINet Conference.* Zürich, Switzerland.

Sproedt, H. (2012). Innovation as Social Practice. In: *Digital proceedings of the 2nd Participatory Innovation Conference (PIN-C '12).* Melbourne, Australia.

Sproedt, H. (2011). Social Dynamics of Participatory Innovation: The Hermeneutic Interplay of Complexity, Relations and Institutions in Knowledge Transformation. In: *Digital Proceedings of the 12th CINet conference.* Aarhus, Denmark.

Sproedt, H. & Buur, J. (2010). Innovation is a Game. In: *Digital Proceedings of the 3rd International Conference and Doctoral Consortium On Organization Development and Change.* Lyon, France.

Sproedt, H. & Buur, J. (2010). Managing or Relating? A Case of Games in User-Driven Innovation. In: *Digital Proceedings of the 11th International CINet Conference.* Zürich, Switzerland.

Sproedt, H. & Larsen, H. (2012). Social Shaping of Innovation – The practice of dealing with paradox, and conflict, In: *Proceedings of the 13th CINet conference, Rome.* 1003-1012.

Eftekhari, N. & Larsen, H. (2012). Tangible Business Modeling in customer orientation. In: *Proceedings of the 13th CINet conference, Rome.* 290-303.

Sproedt, H. & Boer, L. (2011). Grasping social dynamics of participatory innovation: A case of playing a game. In: *Proceedings of the 12th International CINet Conference.* Århus, Denmark. 953-969.

Popular texts

Bogers, M. (2011). Process innovation in user firms: How much are we missing? Management of Innovation and Technology. *IMIT-Institute for Management of Innovation and Technology 3.* 5-6.

Larsen, H. (2009). At lede i skyggen. *www.Ledelseidag.dk.* Copenhagen: Lederne.

Larsen, H. & Bogers, M. (2011). Taking both users and organizations seriously: The development and organization of participatory innovation. *Innovation Management.*

PhD Dissertations

Sproedt, H. (2012). *Play. Learn. Innovate. Grasping the Social Dynamics of Participatory Innovation.* Ph.D. Dissertation, Mads Clausen Institute, University of Southern Denmark, Sønderborg, Publisher: BoD, ISBN: 9783848224319