

## **GICT 2009–Presentations in a Nutshell**

(in alphabetical order)

### **Tanja Adamus, Michael Kerres, Barbara Getto, Nicole Engelhardt**

Gender and E-Tutoring – A Concept for Gender Sensitive E-Tutor Training Programs In our presentation we will give an insight of how we implemented aspects of gender-sensitive instructional design into University Duisburg-Essen’s e-tutor training program. The basic idea was to integrate research findings about gender differences in computer and new media access and appliance into concepts and realizations of online support. We will provide a detailed description of the concept and the implementation of guidelines for gender-sensitive online learning environments into our e-tutor-training program. Thus we will show that it is possible to create and conduct a gender-sensitive training program successfully.

### **Doris Allhutter**

Inclusion and the rhetoric of eParticipation The notion of „eParticipation“ attends to the vision that ICTs carry the potential to reinvigorate political engagement of civil society. In this context, scholars as well as the EU’s eInclusion strategy frame the project rather technology-centred as „taking full advantage of opportunities offered by ICTs to overcome social and economic exclusion“. eParticipation appears as top-down strategy advocated by the argument of its inclusive character and shaping the very concept of active citizenship. At the same time, it is discussed to entail once more the risk of excluding supposedly „technology illiterate“ citizens. Accounting for the danger that particular groups are in fact at risk of being excluded from political and electronic participation, I argue that the mainstream rhetoric of eParticipation stereotypes these groups as unskilled and politically disinterested. My paper investigates gender and diversity aspects in eParticipation in two respects: It discusses the notion that ICT is increasingly seen as a means to achieve enhanced social inclusion. Furthermore, it addresses the interrelation between social/political/symbolic exclusion and the notion of inclusive, user-centred design. A secondary analysis of case studies researching design-related inclusion strategies informs a concluding discussion on how a deconstructivist, feminist notion of „inclusive design“ can be made productive for designing community tools which support political engagement.

### **Gabriela Barrantes, Gabriela Marín**

Differences by Gender in Work Expectations for CS Students in Costa Rica At the Escuela de Computación e Informática, Universidad de Costa Rica, female students are a minority and their numbers are diminishing. This mirrors tendencies reported at universities in other western countries. The explanation for this phenomenon is possibly multifactorial, and in this

paper we explore one of the possible factors: the role of work-related perceptions for career choice, and the confirmation or rejection of common stereotypes after entry to the workforce. We found that there are gender-based differences in those perceptions even at the undergraduate level. The differences accentuate after exposure to real workplace experiences, albeit not in the same directions for men and women, unfortunately not necessarily for the better.

## **Corinna Bath**

Searching for methodology: Feminist technology design in computer science This paper introduces a systematic feminist approach to conceptualizing and building computational artefacts. The main objective is to provide methods for technological design that avoid a perpetuation of the existing structural-symbolic gender order. This, however, presupposes a thorough theorizing and analysis of gendering processes. Based on a review of existing research on 'gender in information technology' I will describe four mechanisms that often lead to gendered computational artefacts: 1.) the 'I-methodology' that assumes technology as neutral, 2.) implicit gendered assumptions and the gendered distribution of labour, which are inscribed into computational artefacts, 3.) gender stereotypes of human bodies and behaviour reflected in technology and 4.) de-contextualization and disputable epistemological and ontological assumptions. For each of these mechanisms I will propose technology design methods adopted from the field of 'critical computing' and discuss their potentials and limits to de-gender computational artefacts on the basis of feminist theory.

## **Sandra Buchmüller, Gesche Joost, Rosan Chow**

The Role of Interface in virtual Gender Representations This paper investigates the impact of digital interfaces on the reconstruction and deconstruction of virtual gender representations. We regard gender representations as a result of interface design and the applied semiotic code. In this case, we focus on interfaces of online role playing games. In order to investigate the different media effects on gender performance, we compare the text based game LambdaMOO with today's most popular image based world Second Life. We show how gender performances can be restricted and expanded by the interfacial conditions and discuss the deconstructive potential of textual versus visual representations. This interface analysis belongs to an overarching research project which generally explores the impact of design on gender images. It aims at developing a gender sensitive design framework in order to contribute to a more gender conscious design practice.

## **Tanja Carstensen**

Gender Trouble in Web 2.0. Gender perspectives on social network sites, wikis and weblogs The paper deals with gender relations and constructions and with negotiations of gender and queer issues in web 2.0. Following a review of early hopes and fears on the internet in feminist discourses, own findings as well as empirical results of other studies on social network sites, wikis and weblogs are discussed. While an insistence on binary gender roles can be observed in social network sites, wikis open up a stage for tough struggles for relevance

of gender issues. Finally, weblogs offer space for diverse identity constructions as well as for queer subject construction and politics without referring to offline identities.

## **Cecilia Castaño, Juan Martín, Susana Vázquez**

E-inclusion and social welfare in Spain: a gender perspective The available data show that men use the Internet in greater proportions and with more intensity than women. However, women tend to perform more socially efficient activities than men, as if the traditional division of work were translated to the virtual world, In other words, some women's use of the Internet (mainly related to health, education or family matters) seems to have a greater degree of functionality in terms of social wellbeing. On the contrary, men outperform women in leisure (sports, games, newspapers) and consumption. In this context, this paper discusses the possible advantages of incorporating women into the Internet community due to the different ways in which they use Internet compared to men. Following the statement made by Huyer and Westholm (2000) that "without data, there is no visibility and, without visibility, there is not priority"; our findings are based on the analysis of statistical data. From this source we built our own quantitative indicators that bring to light gender differences in terms of access and Internet use.

## **Cecilia Castaño, Milagros Sáinz, Ana González, Beatriz López**

What leads women to pursue a research career in the field of ICTs? The case of spanish public research institutions Although the presence of women in universities and research centers is on the increase, the dearth of women in the ICT field is not something new. As we ascend in the hierarchy of research activities, women's underrepresentation becomes more evident. The main aim of this paper is to analyze the presence and position of women in ICT research activity. For this reason, different quantitative (a database and a survey) and qualitative (study cases, in-depth interviews and biographies) methods were used in order to know more about the main characteristics of research groups, their location within Spain, the type of participation of women in these research groups, research inputs and outputs of these research groups, specific strategies to promote the search for talent, the implementation of work-life balance and equality measures within these institutions. All these aspects have been analyzed considering the particularities of the Spanish academic system (the conception of an academic career, the search for talent, the assessment of scientific excellence, etc.). ICT research activities could be a great opportunity for women's inclusion, as excellence and talent of individuals are considered to be its main asset. Nevertheless, the old gender barriers have been transferred to new activities; the scientific career seems to be designed to suit the young male model, without consideration of the attainment of reconciling work and family and gender equality issues.

## **Hilde G. Corneliussen**

Disrupting the Impression of Stability in the Gender-Technology Relation Technology researchers have emphasized changes caused by ICT during the last decades. Recent gender re-

search emphasizes that both gender and technology are flexible categories. However, a recurring argument in feminist literature is that the situation of women in ICT “still” haven’t changed, despite three decades of continuous efforts, thus producing an impression of stability in the gender-technology relation. We still criticize mainstream research for being gender blind, but have we become blind to changes in the gender-ICT relation? This presentation invites to a thought-experiment, asking what we can learn from focusing on change, and exploring what seems to be a gap between the theoretical and empirical level of gender research.

## **Anna Croon Fors, Christina Mörtberg**

*Innovation and Gender in the making: A gendered analysis of technological performances at The Stage* This research attempt to challenge traditional discourse on innovation that tend to treat innovation as a result of the successful acts of individual talents, while paying little attention to particular places and culturally specific practices of transformative change. The research presented in this text evolves from a strong organizational platform, The Stage, that in everyday life prosper under a different name. By setting The Stage we attempt to convey some of the rules of the play, movements between actors, aspects of farness and distance in space, periphery and centre, mutual interest and goals as they are enacted in our discussions and meetings with various actors, props and quests. The aim of the text is to make visible how relationships between gender and information technology matters by employing ideas from feminist technoscience in juxtaposition with the design of technologies and political orderings. A further intersection of gender and technology is provided by a description of digital materials as objects of and resources and arenas for feminist interventions in innovative design. The results from the presented study indicate that feminist technoscience is increasingly accountable for the IT-based innovation systems that are progressing around the globe.

## **Katie Davis**

*Me, Myself, and My Blog: Girls’ Self-Expressions on LiveJournal* In this paper, I report findings from an empirical study involving twenty female adolescent bloggers. I sought to explore the ways in which girls use their blogs to express and explore their identities. During the course of in-depth interviews, the girls discussed their motivations for blogging, its role in their daily lives, and the value they perceive in this activity. They described the opportunities that blogging affords them for unique forms of self-expression. At the same time, the girls noted several ways they censor themselves online. Writing with their audience in mind, they are careful to present a specific self-image. I explore the apparent tension between girls’ self-expression and self-censorship online.

## **Niels van Doorn**

*The Ties that Bind: The Performance of Gender, Sexuality, and Friendship on MySpace* Although the body of research on social network sites (SNSs) continues to increase, scholarship in this relatively new field has largely neglected the gendered dimensions of networked interaction on SNSs. Through an empirical analysis of users’ comment exchanges, this

study demonstrates how a group of interconnected Friends on MySpace engage in gendered and sexualized interactions through the use of various semiotic resources (i.e. text, images, video). In this particular network, articulations of affection are indiscriminately distributed among the Friends, creating a flow of polymorphous desire in which the heteronormative gender binary is repeatedly transgressed. From a theoretical perspective, it is argued that Judith Butler's notion of 'performativity' is useful as an analytical lens when investigating these networked interactions. The examples illustrate how the Friends make use of ironic and/or parodic citations in order to be recognized as a member of the group, performatively delineating and shaping their Friends network.

## **Ulrike Erb**

Reflections on Gender Aspects of Designing an Educational PC-Game exemplified by a Project in Cooperation with the German Maritime Museum Bremerhaven Software design processes as well as game-based learning applications are embedded in social contexts, and thus are affected by gender structures on various levels. In this paper, I present a case study of developing an educational PC-game to be used in the German Maritime Museum Bremerhaven and discuss a range of gender aspects concerning the design process of this game. Especially gender inclusive design strategies and the undetermined design philosophy of Justine Cassell are reflected on the background of our case study, which was performed by a Digital Media master study project at the University of Applied Sciences Bremerhaven.

## **Fritz Hasselhorn, Gerlinde Schreiber, Olga Zbozhna**

Girls only class in computer science at the upper stage secondary level This paper describes the establishment of a girls only – class in computer science at the upper stage secondary level at the Gymnasium Sulingen (grammar school). We concentrate on the motivation, the side conditions considering the latest reforms in school education in Germany and the feedback by the pupils. The cooperation between the International Women's Degree Programme at the Hochschule Bremen and the Gymnasium Sulingen shows yet another way to enhance the participation of young women in technical sciences. Most other projects offer special courses for female pupils at the university or they send advanced students to schools for information events or weekend classes. The project described here differs: The pupils do not have to find their way to a university, but they get constant support for the whole term at their school.

## **Susanne Ihsen, Sabrina Gebauer**

Getting in Touch with Experts – Problem Based Learning in the Engineering Education In 2007 a new symposium was introduced at Technische Universität München as part of the gender program of the excellence initiative – the Liesel Beckmann-Symposium. The participants of this event were students of electrical engineering as well as participants from universities and companies. They learned about gender and diversity in product and personnel development in lectures and workshops. Via methods of Problem Based Learning they were

sensitized about the topics and learned by role plays how to implement gender and diversity in their own work. Afterwards the symposium was evaluated. Results show that students learn a lot through this kind of engineering education and are highly interested in the topics gender and diversity.

## **Heike Jensen, Chat Garcia Ramilo**

Who is Ruling the Internet? Gender Sensitive Research into Internet Censorship as a Central Area of Internet Governance “Internet governance” has been defined, since the UN World Summit on the Information Society in 2005, as any concerted action designed to “shape the evolution and use of the Internet”. As such, Internet governance undoubtedly constitutes a complex new terrain of political, economic, technological and social power brokering. Concurrently, it also forms a new area of academic research, which would benefit from a strong gender angle. In our presentation, we will address Internet censorship and surveillance as one central area of Internet governance and explain how its research can be gendered. We have developed this gender research framework as a contribution to the ongoing censorship and surveillance investigation carried out by the OpenNet Initiative (ONI) in the Asian region. With our framework, we seek to lay open to academic scrutiny the ways in which Internet censorship may impact the power imbalances of societies, with the gender imbalance at the focus.

## **Sonja van Kerkhoff**

An exploration of a diversity of vision in digital art projects Contemporary digital art projects are dominated by an emphasis on the technology or the machine. What is striking is the uncritical approach taken towards the use of much of this technology in contemporary art projects. There is also the idea that interactivity and reflection interfere with each other, which seems to follow on from the idea that a medium is either invisible (like a mirror of ,reality’) or mediated. The assumption is that it can’t be both or that as participants we cannot multi-task or switch between modes of reception. Artists and theorists in digital media also tend to focus on the technological as if this is what makes digital media distinctive. In terms of making the works, technological requirements are distinctive, but my approach is from the viewpoint of the user/participant. We do not discuss literature in terms of the technical requirements and potential of the printing press, but from the point of view of reception. My position is that any art form is primarily a question of achieving engagement, which as Rosalind Picard states, relates to our emotions.

## **Diana Lengersdorf, Iris Koall**

It is a men’s world? How to use generalized communication media to observe gendered communication in internet agencies Designing and producing web application for clients is part of the everyday work of programmers in internet advertising agencies. They have to deal with a diverse field of requirements, which reach from clients needs to IT-infrastructure. Their work life is characterized by complexity and contingency and it take place within a “men’s world”. The presentation follows the phenomenon of producing order and handling disorder by bringing in two perspectives: social practices and social systems.

Empirical material is used, to stress out that practices of order and practices of gender are linked together. Gendering can also be seen as a function that allows organisations to reduce the external complexity by more or less repressive modes of internal homogenization. Our thesis is that gender regulates complexity. We will conclude that to define a new quality in the relationship between organisation and human resources, that lies beyond homogeneity, “Managing Gender & Diversity” is necessary.

## **Monica Obreja**

There is a mass of women missing from ICT. Let’s bring it in! This paper is a reflection on some of the ways we represent the relation between women and ICTs. I claim that since such ways serve as frames for representing reality in certain ways, their content consequently matters for orienting the directions for social change. Thus specific contents will orient change in specific directions. In particular, I am interested in one argument that insists that once a critical mass of women is present in ICT domains, these would become gender-authentic and so their masculine image would cease to exist. I want to see how such argument represents women, ICTs and their relation, and how it delegitimizes other alternative representations that it as such opposes.

## **Jennie Kristina Olofsson**

Degrees Of Freedom (DOF) - rendering of virtual characters The study directs its focal interest towards rendering processes of virtual characters. Hence, it bids to disclose ways in which different forms of embodied actions and behaviours in virtual reality (VR) are part of spatiality as well as of artifacts. Pinpointing the alliance between generic virtual characters, artifacts and virtual environments yield additional understanding of how these phenomena mutually feed off from- and are discerned in light of each other.

## **Ann-Charlotte Palmgren**

Today’s outfit in Swedish Fashion Weblogs: An ethnographical study of the online body In a Swedish context blogs, featuring young women and med posting their self-portraits taken with digital cameras have become increasingly common. These photos are often categorized as Today’s Outfit. The empirical material for this study consists of both blogs and of interviews with some of the bloggers. In this paper I will ask how the body is staged in these blogs. I will begin this exploration by looking at how these kinds of blogs can be categorized and also on the current debate about fashion blogs in Swedish media and blogosphere; next I will discuss today’s outfit as a self-portrait and later look at what differences and similarities can mean in this context.

## **Carmen Pérez Sánchez, Ana Gálvez Mozo**

Is telework a female work organization? This paper presents some results of an empirical research that analyzes the reorganization that telework introduces in the worker’s work, family and personal life. The theoretical background is based on gender studies, social stu-

dies of science and technology and studies of work. The empirical data has been obtained from 24 personal interviews and 10 focus groups to Spanish telework women with familiar duties. Most of the researches show the existence of a gender digital divide according to what women are underrepresented in technological fields in western societies: they use ICTs less than men. However, our study has found that telework reverses this gender digital divide because it is mostly adopted by women, although the companies and public administrations in Spain offer telework programmes without making distinction between genders. Moreover, we will argue that telework could reinforce the women's traditional role as a householder.

## **Christina Pöpper, Adrian Altenhoff**

What Drives Young Women to Study Computer Science in Switzerland? Experiences on promoting computer science studies for female high school graduate In Switzerland, more than in other European countries, girls have rarely chosen to study computer- or technology-related subjects. Currently, women comprise only 10% of the computer science students at the Swiss Federal Institute of Technology Zurich (ETH), the largest technical university in Switzerland -- roughly the same as that found in the professional world in Switzerland. In this work, we analyze the number of female students at the ETH during the past 18 years. Our analyses indicate that women's career decisions are driven by market development and environmental factors to a larger extent than those of men. Motivated by the wish to create a heterogeneous and thus diverse, inspiring, and productive study and working environment, we present our approach to increasing the number of female computer science students at ETH. We evaluate the motivations and interests of prospective female computer science students. On a longer term, understanding what fascinates young women about technology may open the door for universities and society to adapt in order to meet the desires of a new target group for computer scientists.

## **Els Rommes, Josine Oude Geerink van Leijen**

Designing Gendered Games; Values of Designers and Users of Toys In a small-scale study we have analyzed the genderscripts of the toys of three Dutch toy producing companies and we have interviewed owners and directors of these companies. We found large differences in the 'genderedness' of the games they were producing. We have found explanations for these differences in differences in the (feminist) values that the directors of these companies had. Moreover, we have interviewed eight girls (9-13 years old) on their game playing behaviour and observed them while they played masculine connotated games, to see how they dealt with the genderedness of these games. Indeed, although gender specific games may play an important part in the gendering of children and computer games may help to present computer science as something 'for boys', children also have some agency in dealing with the dominant discourses around gendered games.

## **Diana Schimke, Heidrun Stoeger, Albert Ziegler**

The Influence of Participation and Activity Level in an Online Community on Academic Elective Intents for STEM Online Communities (OCs) allow individuals to meet similar others. Es-



pecially when there are no offline-groups available, OCs can be useful for locating others who share specialized interests. For girls, who are interested in STEM (science, technology, engineering, mathematics), an OC could be an option to meet others with similar interests. However, belonging to an OC might not be enough. Research has shown that active involvement is important in order to benefit from being a group member. To test this assumption, we conducted a study with female high school students who were members of an OC for girls interested in STEM (N = 231) or who applied to become a member but had to wait another year (N = 186). We found (1) that the more actively members participated in the OC, the higher they identified with the group and (2) that for members, who identified strongly with the group, the academic elective intents for STEM increased significantly over the study period (ten months) whereas the academic elective intents for STEM decreased for members who identified less with the group as well as for members of the control group.

## **Sigrid Schmitz, Elisabeth Grunau**

Concept Mapping from a Perspective of Gendered Diversity Concept maps represent web diagrams to structure, explore and acquire knowledge in non-hierarchical and multi-related formats. They can be used to facilitate navigation in complex and related knowledge domains. With respect to current discussions on the use of these technologies at supporting constructivist and collaborative learning approaches in blended learning and e-learning settings, we carried out an empirical study to analyse a) the effectiveness of concept maps in promoting knowledge acquisition, b) task specific dependencies, and c) gender aspects in the use of concept maps based on a diversity oriented gender concept. This concept includes interacting factors on the navigation strategy of participants in a web-based information system, e.g. level of computer literacy or strategy preferences in real life navigation, amongst others. Based on some results from this empirical study we discuss requirement for the design of concept mapping technology and its benefits and limits for interdisciplinary gender studies.

## **Johanna Seyfrin**

„Do you work on IT or what?“ - Configurations of Heterogeneous Actors in Information Systems Design In systems design a number of different actors participate, and the boundaries between these are not always self-evident. The purpose of the paper is to explore how heterogeneous agencies were configured during a systems design project. The empirical material for the study was gathered through the use of ethnographic methods, and analyzed diffractively. The conclusions are that in the project a range of agencies were configured, and these were sometimes enabling, and sometimes restricting. Furthermore the administrative officers (mostly women) in the project were configured as business experts, and this categorization made invisible their contributions as systems designers.

## **Anita Thaler, Isabel Zorn**

Music as a vehicle to encourage girls' and boys' interest in technology This paper will present first results of the research project „Engineer Your Sound!“ (EYS; 2008-2009) funded by the Austrian Federal Ministry of Science and Research. EYS explores the potential of addressing

young people's interest in music and music technology in order to raise their interest in technology and engineering. The project aims at developing didactic concepts for installing gender-inclusive technology education in Austrian high-schools. The concept and first results of the teenagers' projects will be presented.

## **Tarja Tiainen, Riitta Tuikkanen, Teija Taskinen**

Using Technology and Constituting Structures in Professional Kitchens This paper concerns on technology use in work at a female field. We study how everyday use of technology and skills for it reshapes organizational structure. We focus on a field, in which ICT has just become in common use; that is food service. We studied it through one case; a hospital kitchen. Although technology is not widely used, there exist technology in equipments (as high-tech self cooking centres) and computer applications (as recipes design). Managers' role is central in official hierarchy but cooks has remarkable role in nonofficial structure, with preparing the main dish with new technological equipments.

## **Marja Vehviläinen**

Creating an Academic Network with Women in Computer Science in Afghanistan In Afghanistan, all development in the area of information technology (IT) is still quite young, but this in particular provides an opportunity - especially for women - to actively participate in the process of rebuilding, and to strengthen their role in the Afghan society. Thus, offering women an integrative room is crucial, a room where they can exchange information without being disturbed and where they can get to know each other, create an academic network, develop ideas for new projects and discuss them. It is the idea, to interconnect the Afghan female computer science (CS) students, because they are young, open minded and very motivated. Nevertheless they are often limited by social boundaries within the Afghan society. These female CS students have been asked about their familial background, but also about their motivation to start the CS study course. Based on the results, a concept is being developed which shall support the female students during their studies, and their future way.

## **Maja van der Velden, Christina Mörtberg, Pirjo Elovaara**

Tension in Design Script is a productive figure to inscribe and analyse gender and diversity in design. This paper addresses one risk of the use of script in our desire to design for gender and diversity. We locate our discussion of this risk in two design perspectives, 'design from nowhere' and 'design from somewhere'. With the help of two vignettes we discuss how 'design from nowhere' was perceived as a perspective to de-gender-ise and de-culture-ise design. 'Design from somewhere', we argue, may result in a freezing of gender and identity in time and place. We propose a more open perspective, not yet 'nowhere' or 'somewhere', and we show how the notion of intra-action may be more productive in understanding how we keep the multiplicity of gender and diversity visible in the design process. We show this with an example of the object-oriented analysis and design practice. Lastly, we focus on the

accountability of the designer, who, as a modest witness, has particular responsibilities in bridging partial knowledges and keeping those knowledges visible in the design process.

## **Jutta Weber**

Autonomous Killing Systems, Gender & ICT. A Case Study of Unmanned Aerial Vehicles in US & NATO Military. In the frame of the European Research Project ETHICBOTS - Emerging Technoethics of Human Interaction with Communication, Bionic and Robotic Systems (SAS 6 – 017759; Nov. 2005 – April 2008), we analyzed recent developments in military robotics in Europe and USA and undertook a case study on unmanned combat aerial vehicles. In the GIST conference, I will first present some of the research findings and reflect them from a feminist perspective.