ANNUAL REPORT 2013

Research Division

Technoscience Studies

Profile areas:

Design for Digital Media
Feminist Technoscience
Innovation System and Development
ICT for Development

Department of Technology and Aesthetics
School of Planning and Media Design
Blekinge Institute of Technology BTH

The Mission of the Research Division of TechnoScience Studies is to Expand and Transform Theoretical and Practical Knowledge Bases of Technology Research & Development & Innovation.

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HIGHLIGHTS

VERY POSITIVE RESULTS OF
EXTERNAL ASSESSMENT OF
OUR RESEARCH

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3 NEW DOCTORS

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1 NEW LICENTIATE

...

1 NEW ASSOCIATE PROFES-
SOR

...

1 NEW PHD STUDENT

...

IN TOTAL 16 DOCTORATES
AWARDED

...

GUEST PROFESSOR PROGRAM
IN NEW MEDIA, LINKED TO
MEDIA TECHNOLOGY EDUCA-
TION WITH MORE THAN 300
BACHELOR STUDENTS

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SIDA SPONSORED PARTNER
IN BILATERAL AGREEMENT
WITH BOLIVIA AND RWANDA

...

EU PROJECT GENISLAB
BRINGING BTH TO FORE-
FRONT

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EXTERNAL R&D FUNDING
WAS 68%

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Executive Summary

The research division Technoscience Studies has a transformative ambition in bringing a technical university like BTH closer to realities in needed knowledge production in high income as well as low income countries. This is done in practice and theoretically in four main profile areas namely Design for Digital Media, ICT for Development, Feminist Technoscience and Innovation System & Development.

The activities at the Research Division of Technoscience Studies (ToS) during 2013 are characterised by a high number of examination and PhD students, high degree of external funding and extensive international collaboration in the field of Innovation Systems, Clusters and Development. ToS is linked to the undergraduate education with its profiled programmes of Digital Game, Digital Audio Production, Digital Visual Production and Web Development engaging more than 300 bachelor students. This linkage is continuously evolving.

The highly appreciated cooperation with and support from the local government of Karlshamn and the Bank of Karlshamn continued during 2013 within the context of NetPort. To participate in developing NetPort as a strong innovation system is an inspiring driving force for ToS, which thus is fulfilling one of the core values in the profile of BTH.

One senior lecturer at ToS, Pirjo Elovaara, achieved the position of *associate professor* (docent) during 2013.

During the year three doctorate degrees in the PhD program Technoscience Studies were earned by Julius Ecuru with his thesis titled *Unlocking Potentials of Innovation Systems in Low Resource Settings,* Joshua Mutambi with his thesis titled *Stimulating Industrial Development in Uganda through Open Innovation Incubators* and Tomas Kjellqvist with his thesis titled *Biståndspolitikens motsägelser om kunskap och tekniköverföring - från konkret praktik till abstrakt policy* (Contradictions on knowledge and technology transfer in the politics of Swedish Aid: From concrete practices to abstract policies). Julius Ecuru and Joshua Mutambi were sponsored by Sida and defended their theses at their home university Makerere University, Uganda.

One licentiate degree was earned by Linus de Petris with his thesis titled *Om glappen vi skapar och de märken som blir – Materiell-diskursiva produkter i kommunkontext.*

During 2013, three PhD students have done their research within the evolving International Graduate School for Innovation Systems, Clusters and Innovations. The Graduate School is an initiative by ToS via the Scandinavian Institute for Collaboration and Development (SICD) and in collaboration with PACF (Pan African Competitiveness Forum) and Universidad Mayor de San Simon (UMSS), Cochabamba, Bolivia. Tomas Kjellqvist, who is the managing director of the International Graduate School, has during the year anchored the Graduate School in several international, academic and funding networks. A consortium is planned with the following actors in an initiating phase – the Institute of Economic Research on Innovations, Tschwane University, South Africa, the Nelson Mandela African Institute of Science and Technology, Arusha, Tanzania, UMSS, Bolivia, UNU – Merit, Maastricht, Netherlands, Aalborg University, Denmark, BTH, Research Policy Institute, Lund University, Sweden.

A specific quality of Technoscience studies is the strong and concrete link between BTH and governmental bodies, which constitutes examples of co-evolution of knowledge. One of the PhD students is a public sector doctoral student being a staff member of the local government of Karlshamn as well. Another PhD student has a high position at a ministry of industry and trade in Uganda and a third one at a council of science and technology also in Uganda.

During the year ToS had nine active doctoral students within the PhD programme including the three, who defended their doctoral thesis during the year. The ties of ToS to international R&D collaboration were strong, with specific links to Norway, Denmark, Tanzania, Uganda, Bolivia, Rwanda, Italy and Germany.

The R&D program within the profile of Design for Digital Media was strengthened during the year with an ambitious guest professor/researcher program including leading researchers in Scandinavia. The administrative heads of BTH are acknowledging the results of the program. The programme and linked activities are presented below.

The regional relevance of the research is enhanced by involvement and collaboration in

NetPort and its profile New Media. Research and undergraduate education are strongly intertwined and result in establishment of companies by students within media technology and especially so within digital games. A student team called Dead Shark Triplepunch won the international competition Make something unreal live with their game Epigenesis.

The international PhD students of ToS contribute directly to solving acute problems in their respective home countries like digital education resources for rural secondary schools, digital systems handling serious diseases and other systems for vital infrastructures in society.

BTH strategic plan 2013-2016 emphasizes international collaboration and innovation in-real-life. ToS was during the year strong in realising these goals through doctoral training and research, and also through collaboration for in-real-life innovation in East African countries and Bolivia via SICD (Scandinavian Institute for Competitiveness and Development.

ToS via SICD has two Sida funded R&D projects. One is the project "Innovative Clusters Closing the Gap between University and Society in East Africa - a living proof of mode 2 excellence?" with Birgitta Rydhagen as project manager and with a budget frame of 3 190 000 SEK during 2010 – 2012 and extended to March 2014. The other project is "Solar power to the poor people: Using innovative clusters to develop business models for technology transfer" with Tomas Kjellqvist as project manager and Erik von Bahr assisting and with a budget frame of 4 400 000 SEK during 2010 – 2012 and extended to 2013.

Technoscience studies is one of nine partners in a 4-year EU project called GenisLab, within which a number of researchers at ToS are involved. European universities in the fields of physics, nanotechnology and IT collaborate with technical partners in Italy for advanced gender equality in the academies. In April, BTH hosted a two-day conference for GenisLab partners. During the year the GenisLab project at BTH has focused on executing the tailored action plan (TAP) for BTH. Results have been discussed with the Equality committee as well as further plans. The VC of BTH has decided to introduce this TAP in the BTH score card reported to the Ministry of Education in the new university organisation.

Art Line is an international art- and culture project in collaboration between 14 partners from 5 different countries in the South Baltic region; Sweden, Poland, Germany, Russia and Lithuania. The project is part-financed by the European Union (European Regional Development Fund), South Baltic Cross-border Cooperation Program, and ran from 2011 until June 2013. Pirjo Elovaara participated within the sub-project Telling the Baltic (TTB). TTB is a collaborative storytelling project involving Laznia Centre for Contemporary Art (Laznia CCA), BTH, , Blekinge County Museum, Kaliningrad Branch of the National Centre for Contemporary Arts (NCCA), Nida Art Colony, Kunsthalle Rostock, Stena Ferry Line and ArtMission. The exhibition Telling all about it is an outcome that is touring museums in the participating locations.

The external R&D funding for ToS during 2013 was 68 % of the total R&D budget counted on processed and granted income.

The external evaluation of the research at BTH during 2013 gave the following assessment of Technoscience studies:

"The strongest academic contribution from Technoscience Studies is the developed epistemological platform. The challenge here concerning this platform, unique at an institute of technology such as BTH, is to make it more visible and used by other parts of BTH. Such a platform could help in positioning the profile of the field of studies of this department in the landscape of other units at the BTH and internationally. It would be of special importance because the department focuses so strongly on the doctoral level of research and research education, where such a base is crucial for building a robust and intellectually self-confident research-education environment.

One of the most serious opportunities for future development is that Technoscience Studies have a high relevance in society, locally in Sweden and globally.

These studies are of special relevance for the developing countries. Building highly competent human resources (through doctoral education and research co-operation, the department can establish a unique centre of competence, serving as a hub of continuously growing network, combining both advanced practice and renowned academia, in Sweden and in the developing countries involved in the co-operation."

Background

The research division of Technoscience Studies belongs to the department of Technology and Aesthetics at the School of Planning and Media Design (DSN) at Blekinge Institute of Technology – a profiled University of Applied ICT and Sustainable Development. From 1st of January 2014 the department belongs to the Faculty of Computer sciences in the reorganisation of the university.

The activities at ToS began in 1998 in the then Department of Computer Science and Economics with earmarked funds appropriated by the Parliament through the research bill 1996/97:5. A professor chair in ICT and gender research was filled the 1st July 1999. ToS is a new field of technology and engineering and is highly innovative in terms of development of gender research within technoscience, media technology, methodology for ICT related research and innovation system and cluster development.

In addition to research, undergraduate and graduate education the activities embrace work with knowledge networks, campus development, external engagements, internal work at BTH and support work for external funding of research and research collaboration.

ToS is fully integrated into the profile of BTH in terms of both applied ICT and interactions in triple helix constellations.

BTH campus Karlshamn

Most staff at the Division of Technoscience Studies is involved in BTH's construction of a university campus in Karlshamn. This effort began in 2000 and has intensified as operations grow. The collaboration at NetPort pertains to all kinds of undergraduate education and student issues, cooperation with upper secondary schools and other education providers, various EU project constellations, support for research also in cooperation with experience-based learning, local government and business contacts, incubation activities with participation in the savings bank's foundation of Karlshamn Bank (Sparbankens Näringslivsstiftelse) to promote economic development, etc. The long term support from the local Government of Karlshamn is highly appreciated and constitutes a base for a very fruitful development of NetPort and BTH campus Karlshamn.

NetPort and BTH are situated in the same premises. There are many activities going on at NetPort, which means visibility for BTH's presence in Karlshamn and a form of indirect marketing. The contacts with NetPort's director and staff during the year were vital for a fruitful collaboration especially in the profile area of Digital Media at BTH campus Karlshamn.

Theoretical stance

One of the aims of Technoscience Studies is to develop complex knowledges about ICT including media technologies as reality-producing and transforming technologies as well as of the transformations that follow in its wake. The epistemological base for this is found in feminist research developed within technoscience. This presupposes participation in the appurtenant processes of transformation and knowledge production. Seeing ICT as reality-producing technologies rests on the idea that all of us, researchers in the field included, are enmeshed in development processes. No innocent positions exist. ICT intervenes in and co-creates people's everyday lives. On the other hand, ICT is developed and interpreted and practiced by people. This aim of Technoscience Studies is thus to create theoretical bases and practices for developmental processes in ICT-related fields as well as in the context of innovation systems.

The latter has increased in importance for ToS with a strong and upcoming research profile in innovation system and development including the International Graduate School for Innovation Systems, Clusters and Innovations together with a number of international partners.

Within international gender/feminist research with strong links to the dominant technological fields of our age – information and communication technology, biotechnology and material technology – there is a widespread understanding of the production of knowledge and technology as processes taking place in distributed systems. In these days and age knowledge is generated in the overlapping borderland of universities, industry and other regional, national and international entities as well as governmental bodies. These processes are not least apparent in our region Blekinge and affect the way in which BTH carries out R&D work. The term technoscience connotes this understanding of the concurrent production of knowledge, technology and reality. The way in which technoscience is defined by scholars like Donna Haraway raises important questions about boundaries and transgressions between science, technology, politics and society, humans and non-humans etc. as well as implosion phenomena within the same spheres.

The PhD program of ToS belongs to the faculty of technology at BTH. Along with research activities based on the individual research projects, ToS also has a joint research programme organised as division seminars and courses in order to develop epistemological competences and skills for theoretical and methodological work. Prospective doctoral students and university lecturers also participate in this research programme.

Staff

Administrators

Anita Carlsson, Head of Administration, Department of Administration, DSN

Paul Carlsson, Head of Department of Technology and Aesthetics, DSN

Peter Ekdahl, Dean of School, DSN

Ulrika Magnusson, Research education administrator, Department of Administration, DSN

Madeleine Persson, Economist, Department of Administration, DSN

Researchers

Carlos Acevedo, Doctoral student

Gerhard Bax, Adjunct Professor

Paul Carlsson, Doctoral student, University lecturer

Linus de Petris, Doctoral student, Licentiate Dec 2013

Julius Ecuru, Lic., Doctoral student, PhD Nov 2013

Peter Ekdahl, PhD, Senior lecturer

Pirjo Elovaara, PhD, Senior lecturer, Associate professor Dec 2013

Anders Falk, Doctoral student, University lecturer

Peter Giger, PhD, Senior lecturer

Elisabeth Gulbrandsen, Lic., Doctoral student

Kerstin Gustavsson, University lecturer

Tomas Kjellqvist, Doctoral student, Project director, PhD June 2013

Joshua Mutambi, Lic., Doctoral student, PhD Nov 2013

Linda Paxling, Doctoral student

Birgitta Rydhagen, Associate professor, Senior lecturer

Kåre Synnes, visiting professor

Lena Trojer, Professor, Head of Division

Associated Researchers

Erik von Bahr, Senior advisor

Christina Björkman, PhD, senior researcher

Peter Kempinsky, Senior advisor, Kontigo AB

Peter Lating, PhD, postdoc, collaboration partner

Lydia Mazzi, PhD, postdoc

Charles Otine, PhD, collaborating partner

Fatuma Simba, PhD, postdoc, collaborating partner

Dan Sjögren, Project manager

Postgraduate degrees awarded

Licentiate of Technology Pirjo Elovaara	2001 02 02
Licentiate of Technology Christina Björkman	2002 06 14
Licentiate of Technology Peter Ekdahl	2002 10 25
Doctorate of Technology Birgitta Rydhagen	2002 12 18
Licentiate of Technology Annelie Ekelin	2003 01 27
Licentiate of Technology Inger Gustafsson	2004 05 07
Doctorate of Technology Pirjo Elovaara	2004 05 28
Doctorate of Technology Christina Björkman	2005 05 23
Doctorate of Technology Peter Ekdahl	2005 12 09
Licentiate of Technology Peter Giger	2006 06 09
Licentiate of Technology Peter Okidi Lating	2006 12 04
Doctorate of Technology Inger Gustafsson	2008 01 18
Licentiate of Technology Ellen Kalinga	2008 05 28
Licentiate of Technology Suzan Lujara	2008 05 28
Doctorate of Technology Peter Okidi Lating	2009 03 06
Licentiate of Technology Fatuma Simba	2010 06 28
Doctorate of Technology Ellen Kalinga	2010 12 08
Doctorate of Technology Suzan Lujara	2010 12 08
Doctorate of Technology Peter Giger	2010 12 15
Licentiate of Technology Rebecka Molin	2011 02 11
Licentiate of Technology Charles Otine	2011 03 31
Licentiate of Technology Lydia Mazzi	2011 06 01
Doctorate of Technology Maria Bäcke	2011 05 27
Licentiate of Technology Joshua Mutambi	2011 06 10
Licentiate of Technology Julius Ecuru	2011 09 24
Doctorate of Technology Fatma Simba	2012 09 27
Doctorate of Technology Lydia Mazzi	2012 11 07
Doctorate of Technology Charles Otine	2012 11 07
Doctorate of Technology Tomas Kjellqvist	2013 06 14
Doctorate of Technology Julius Ecuru	2013 11 28
Doctorate of Technology Joshua Mutambi	2013 11 28
Licentiate of Technology Linus de Petris	2013 12 19

Research projects

The research projects are listed below within the four main profile areas of the research division of Technoscience Studies. The projects can either be doctoral thesis projects or research projects. In some cases the projects belong to more than one profile area.

Design for digital media

Theoretical Frameworks for ProduSer Oriented Design for Digital Media

Peter Ekdahl, R&D project

The aim is to develop a research structure as well as theoretical frameworks for the concept ProduSer Oriented Design for Digital Media. When starting the process of producing digital media, there are no separate roles as producer and user. The roles are intertwined in complex and dynamic relations. The understanding of these complex relations opens up for new ways of developing relevant and future oriented applications. The R&D project is closely linked to the under graduate programmes Digital Games, Digital Visual Production, Digital Audio Production, Web Development and Basics for Digital media. The project encompasses development of a deeper and more complex understanding of digital media technology and design as an area of knowledge. The aim of the project is also to define core areas and develop transformational strategies in order to find out how traditional disciplines relate to the core areas of media technology and design including serious gender perspectives.

The Rhizomatics of Social Media

Peter Giger, R&D project

The project discusses the role of Social Media in the context of Gilles Deleuze's and Felix Guattaris's work. The main point is the following question: what happened when the Internet went from the ideological mindset of "Web 2.0" to the more consumer related "Social Media"? How does this change of the "media mindset" relate to the contemporary human relation to technology?

Technology as an intrinsic part of humans — from eGovernment to iGovernment

Linus de Petris, PhD project funded by Swedish Agency for Economic and Regional Growth. Licentiate degree in December 2013.

The research is set in a municipal government context, focusing on participation and design and use of ICT. It is carried out on a basis of action research. The public sector has for many years declared visions of technology (the Internet in particular) to enable so called 24-hour services, strengthening democracy, empowering civil society to influence policy making and political decisions, and much more.

Are these expectations on technology and the Internet in particular to solve problems in and for society realistic? Trying to fully conceptualize the role of ICT in a municipal context and what consequences design will have for different people and processes is very complex, probably not fully graspable. The theoretical work is inspired by several disciplines, including design theories, technoscience, information architecture and cognitive science.

Ideas on design as participation in assemblages of humans and non-humans are a foundation in my work. John Law's method assemblages and Pelle Ehn's notion of design things are key in the understandings of contemporary challenges for participation, design and innovation. Another important aspect for the work is the concept of hyper-reality from the thoughts of Jean Baudrillard.

The digitizing of rituals; aesthetics in digital media

Anders Falk, PhD project funded by local government of Karlshamn

The main objective is to study rituals as design hooks in digital media.
The more specific objectives concerns the issues of
- the choices of transparent virtual alternatives instead of unsure realities
- changes from gameplay mechanics towards emergent / internal meta systems.

The reality producing dynamics of the mobile artefact in East Africa

Linda Paxling – PhD project

The research objective is to provide a feminist and postcolonial technoscientific understanding of how the mobile phone is changing the reality producing dynamics in an East African context.

Following a transdisciplinary approach to ICTs and society the research will showcase the dual process of the reality producing shaping/design of mobile technologies for development (M4D) and the impacts of mobile phone usage on society.

By merging a feminist technoscience stance with an action-oriented research approach my work aims to apply a locally contextualized knowledge production of the institutionally structured situation (government initiatives, NGOs and private companies) as well as the unstructured everyday situation (everyday mobile phone use), and based on the findings suggest improvements of strategies, practices, and knowledge of the local mobile environments for policy-makers, practitioners and academics.

Keywords:
M4D, ICT4D, Feminist Technoscience, Postcolonial Technoscience, Cyborg Anthropology, Livelihoods, East Africa, Participation, Representation, Democratization

Creativity in Media Technology Graduate Education

Paul Carlsson, PhD project. The PhD project starts in the issue of creativity and how to implement this in technical graduate education.

Educational reports published over the last 20 years have consistently identified creative thinking and problem solving as among the most crucial skills necessary for success in today's workplace, and thus have called on educational institutions to do more to promote these abilities (Carnevale et al., 1990; Secretary's Commission on Achieving Necessary Skills, 1991; Partnership for 21st Century Skills, 2008).

The overarching question is how to design a learning environment in the context of media technology training to encourage creativity, problem solving and personal development instead of the traditional fact learning situation.

ICT for development

The reality producing dynamics of the mobile artefact in East Africa

Linda Paxling – PhD project, see above.

Transdisciplinary Research Development in Triple Helix Context in Uganda

Dr Peter Okidi Lating, post doc project, funded by Sida.

The aim of the postdoctoral study is to strengthen transdisciplinary research skills of the candidate and improve graduate supervisory skills as part of the staff capacity development in the Faculty of Technology, Department of Engineering Mathematics/Computer Engineering, Makerere University, Uganda, The specific objectives are the following:

- Publish a book titled " Realities of Transdisciplinary Research Development in Uganda: Co-evolution in triple helix processes", published at Makerere University Press, 2011

- Publish three state-of-the-art journal papers where longitudinal data analysis method is used, in process.
- Jointly supervise a PhD student under the Innovative Systems and Clusters Program (ISCP), in process.

Innovation system and development

Business Incubation Systems as an integral development strategy for industrialization of Uganda

Joshua Mutambi, PhD project funded by Sida. PhD defended in November 2013.

The main objective of the research is to establish the impact of the BI initiatives and to develop the most suitable model of small business incubation that can stimulate Industrialization in Uganda"

Specific objectives are

- to study experiences in other countries in respect to business incubation and industrial development and in the context of Government support
- to determine the factors of business incubators that affect growth and productivity of businesses in Uganda
- propose an appropriate Ugandan Business Incubator model.

Unlocking the Binding Constraints in Uganda's Innovation System

Julius Ecuru, PhD project funded by Sida. PhD defended in November 2013.

The main objective of the research project is to establish priorities for interventions within Uganda's innovation system.

Specific objectives are to

- map actors in Uganda's innovation system
- assess the patterns of interactions with respect to knowledge generation and exchange among the actors
- model the flow of knowledge and information among the actors
- identify the binding constraints and opportunities within the innovation system.

Formation of clusters focusing generation of a co-evolution context of university and industry in Cochabamba region, Bolivia

Carlos Acevedo, PhD project

Main objective is to develop knowledge about the cluster shaping process focusing the generation of a co-evolution context between the university and the cluster firms based on the experiences of Cochabamba city, Bolivia.

Specific objectives are to

- describe the clustering process taken place in the region of Cochabamba, Bolivia
- determine success factors in the clustering process for the development of a co-evolution context between the university and the cluster firms
- analyse the impact reached during the clustering process in the framework of co-evolution processes.

Aid, Knowledge and Technology Transfer

Tomas Kjellqvist, PhD project. PhD defended in June 2013.

Recent critique of development aid by Easterly and Moyo has among other things pointed to how recipients get dependent on aid. This study will use the debate created by these authors as a context to analyse how development paradigms on technology transfer in the energy sector has contributed to shape the situation that the authors are criticizing.

Specific objectives are

- to analyse how the role of knowledge and knowledge institutions have been treated in development paradigms, with snapshots from the 1960's, 1970', 1980's, 1990's and the first decade of the 21th century
- based on this model propose an experimental model for introduction of renewable technologies to reduce poverty
- to make recommendations for the next era of technology transfers linked to the climate change mitigation and adaptation funding mechanisms.

Solar power to the poor people: Using innovative clusters to develop business models for technology transfer

Tomas Kjellqvist, project manager, Erik von Bahr, R&D project funded by Sida

This project proposes to improve the productive uses of energy in innovative clusters with solar energy installations adapted to their needs. The project will draw on previous experience of income generation through almost 75 innovative clusters in South Africa, Tanzania and Uganda. These 75 clusters are based on agglomerations of small and medium sized enterprises with a total geographical spread encompassing both urban and rural surroundings. Each cluster consists of a number of firms that are linked in a production chain or operate in the same trade, but cooperate to achieve joint competitiveness. They involve people in different productive functions throughout the value chains, and we find these people in very different socio-economic situations. Investing in solar technology for clusters would show long-term social and economic effects as the involved individuals of all social strata could increase their incomes over time.

The clusters can provide opportunities to test and improve solar energy technology in real world applications as they represent a wide range of trade areas. Working with clusters means that there are opportunities to replicate solutions and to find advantages of scale. The cluster members have acquired a basic understanding of entrepreneurship and openness to technological change. As a result they would be prepared to adopt solar technologies and adapt them to their needs. They have good experiences of participation in capacity building programs. Besides opportunities to try out solar energy technologies the clusters could develop adapted business models to apply for loans to construct experimental sites. These sites will be arenas to define research for further development of solar technology and for improving mechanisms for technology transfer.

In this case, technology transfer and capacity building requires a close collaboration between the cluster entrepreneurs as end-users, solar technology firms as providers of technology, and universities as providers of training, expertise and new knowledge. Policymakers at national and municipal levels need to be involved to at an early stage to facilitate and give political, and possibly financial, support to the activities. A constellation of these actors is commonly referred to as a "Triple Helix". The actors are in a continuous dialogue to solve problems and transcend barriers with joint efforts. The Triple Helix requires that the respective actors join in to share their own specific knowledge and networks, and are prepared to learn things of use to their own activity area from the others. If such trust is established, the effects of the project are more likely to be sustainable. Each actor could also use his/her network for dissemination of the results, which provides for replication of approaches and solutions in a wider context.

Innovative clusters closing the gap between University and Society in East Africa. A living proof of Mode 2 excellence?

Birgitta Rydhagen, project manager, Lena Trojer, funded by Sida 2010 – 2012 and extended to March 2014.

Universities in East Africa collaborate in innovative cluster initiatives in diverse locations in knowledge production in the context of application. This means that scientific researchers participate in socio-economic development and poverty reduction by developing knowledge in close collaboration with actors in local communities, with business and Government. The umbrella organization PACF (Pan African Competitiveness Forum) provides a supportive structure and facilitates collaboration between cluster groups in different African countries.

The study focuses on two cases where cluster initiatives develop innovative solutions to address changing situations - climate change, increasing global market competition, deteriorating natural resources and an increasing need for diversified income generation among women and men. One case is the Tanzanian Zanzibar cluster for seaweed production. The other case is salt production cluster in lake Katwe, Uganda. Both clusters aim towards increasing product quality and product diversity to increase the income, and at the same time improve social conditions for workers and their families. Many of the participants are women.

The main aim is to study how innovative clusters can foster timely implementation of knowledge products with socioeconomic relevance. Focus is on the research component, since socioeconomic development is part of the strategic policies of universities in Uganda and Tanzania. The project includes focus group discussions and participatory exercises with PACF key persons and cluster members. In August, research partners and cluster facilitators Dr Flower Msuya, Institute for Marine Sciences at University of Dar es Salaam (Tanzania) and Engineer Balu Tabaaro, Entebbe (Uganda) visited BTH and SICD within the project.

Feminist technoscience

The New Production of Politics

Elisabeth Gulbrandsen, PhD project

The main objective is to explore conditions for developing responsible technoscientific cultures - in and beyond the academy. The linearity as well as the division of labour suggested by the "technology push" and "society pull" policy models are heavily criticized for ignoring the complexity and dynamics that emerge partly as a consequence of the success and pervasiveness of science and technology in late modernity.

Science and society have both become transgressive invading each other's domains, and policy questions are enhanced into political questions. A third, more interactive policy model is emerging figured in transdiscursive terms like "strategic science", "innovation system", "postnormal science", "technoscience", "mode 2", "agora".

Social Networks in a Sustainable World

Peter Giger, R&D project, see above

Epistemological Issues in Computer Science Education from Gender Research Perspectives

Christina Björkman, research project, quiescent during 2013
This is a project with university teachers in computer science at a Swedish university. The focus of the project is gender, knowledge and learning in computer science, and the project aims to deepen the teacher's knowledge and experience in these areas in order to develop their teaching. In the longer perspective, this concerns how to make computer science more interesting to a larger group of people than is the case today. This can be accomplished by, for example, discussing issues such as what computer "is", and how it is presented, and to learn to respect and accommodate greater diversity among students and their backgrounds, interests, motives and understandings.

Theoretical Frameworks for ProduSer Oriented Design for Digital Media

Peter Ekdahl, R & D project, see above.

The reality producing dynamics of the mobile artefact in East Africa

Linda Paxling – PhD project, see above.

Innovative clusters closing the gap between University and Society in East Africa. A living proof of Mode 2 excellence?

Birgitta Rydhagen, project manager, Lena Trojer, see above.

Designing Climate-Smart Water Adaptation Strategies for Sustainable Urban Development. A study of Cochabamba and Kota

Birgitta Rydhagen, financed by Sida 2011-2013.

Project leader Dr Julie Wilk and senior researcher Dr Anna Jonsson at Tema Vatten and CSPR, Linköping University are the main researchers in the project. The project aims to try and adjust a toolbox developed for assessment of vulnerability and adaption strategies for climate change in municipal organizations. The project builds on a series of workshops with stakeholders within municipal organizations and citizens' groups. Collaboration is established with researchers in Bolivia and India to situate the toolbox and the process in the context of application. The role of Birgitta Rydhagen is to emphasize technoscience aspects of climate adaptation, and to develop gender relevant adjustments of the toolbox. During 2013, a second research visit was paid to Kota (India), and research partners Ivan del Callejo from Universidad Mayor de San Simon in Cochabamba (Bolivia) and Dr Arun Kumar and Professor Ashu Rani from University of Kota (India) visited World Water Week in Stockholm and Linköping University within the project.

Feminist TechnoScience and a Shared Fragile Future - challenging the epistemological infrastructure in technology

Lena Trojer, R&D project

The research, which is mainly practice driven in developing countries, brings forward discussions on how we, as researchers in technoscience, are deeply involved in technological transformation processes through our knowledge production. The focus is turned towards the knowledge production itself and the university as partner in distributed research processes. The contemporary situation is understood as circumstances, where the boundaries between universities, industry, public sector and other kind of institutions, organisations and authorities are exceedingly hazy concerning knowledge production and evolving into complex co-evolving processes. The discussion is kept to the role and accountability and responsibility of the actors at the universities. There is an emphasis on the need for (self)reflection in technological transformation processes as far as scientists are concerned.

Development of the R&D profile Design for Digital Media

Position

The development work of the Media Technology Group in the undergraduate programs indicates that the core knowledge foundation of design for digital media is evolved in the expression of the production (in Swedish gestaltande produktionen). Consequently there are specific demands on the epistemological and methodological bases as well as the formation of the R&D profile to support the activities.

The objectives of the R&D profile of Design for Digital Media are:

- to strengthen and more clearly articulate the design environment for undergraduate courses
- to develop Master programs and courses on graduate level
- to develop the research profile of Design for Digital Media. It is still an open question to keep the profile within the PhD program of Technoscience Studies or to bring the profile into a specific PhD program of its own
- to provide relevant qualifications for the teacher staff of Media Technology at graduate level
- to strengthen cooperation with external education and research actors nationally and internationally
- to develop co-production with the industry and the public sector.

The R&D profile of Design for Digital Media includes the following:

- Seminars developing the conceptual repertoire. The activities are open to the teacher as well as researcher staff. This enables us to identify and prioritise the needs of qualification for our teachers. The activities include seminars with guest speakers, literature and writing workshops, participation in conferences with papers.
- Courses at graduate level to qualify the teachers and invite applicants from other university sections and colleges in order to broaden our networks.
- Graduate school at the national level in collaboration with other universities. This facilitates teachers' qualifications and networking.
- Research groups focusing three areas: theory, development of design education and applied research.

The Swedish Faculty for Design Research and Research Education

Design for Digital Media at ToS is a member of the Swedish Faculty for Design Research and Research Education. The aim of the Swedish Faculty for Design Research and Research Education (previously the Center for Research in Design) is to create a solid, critical and future-oriented platform for research, advanced practice and education in the field of design.

The Swedish Faculty for Design Research and Research Education was founded in December 2007 financed by Swedish Council of Research (VR) and Royal Institute of Technology (KTH) and is a national center for design research based at KTH Royal Institute of Technology. The faculty encourages the development of design as a field of knowledge so that it can respond to social, economic and technological challenges in society in a sustainable, innovative and aesthetically aware manner. Currently the faculty is hosting 47 doctoral students from 12 of its 20 member institutions throughout Sweden.

Design concerns us all, everyday and everywhere, in private and in public. In this sense, design is society's biggest cultural sector. Thanks to its ability to effect renewal, design also has a decisive impact on competitiveness in many industries. Design research is needed so that design can develop its cultural and innovative role to meet the future's complex and rapidly changing world with its increased demands for sustainable development.

Research Development

The R&D program within the profile of Design for Digital Media was strengthened during the year with an ambitious guest professor/researcher program including leading researchers in Scandinavia, see Postgraduate activities above. The administrative heads of BTH are acknowledging the results of the program and support an implementation of recruitment of more permanent professors for the profile.

Postgraduate activities

Visiting Scholars Program

Professor **Kåre Synnes**, Luleå University of technology, www.ltu.se/staff/u/unicorn-1.10291, was appointed guest professor at BTH in August 2013. This implies important addition of competence for training programs and research in linked profile. In the start Kåre focuses the development of a master program in media technology / design for digital media.

Dialogue continued with acting Professor **Kristine Jørgensen**, Bergen University, http://uib.academia.edu/kristinejorgensen. Her planned visit to BTH campus Karlshamn had to be postponed to beginning of 2014.

PhD courses

Posthumanistiska texter. Course based on the book Posthumanist texts.

InterGender

ToS partner in the VR funded National Graduate School

InterGender links Swedish PhD programs in Gender Studies and set up relations to four major European Research Schools within the area. Participants are Gender Studies units at the universities in Blekinge, Göteborg, Linköping, Luleå, Lund and Örebro that have established Gender Studies as a research training area of its own, as well as Gender Studies units at the universities of Stockholm, Uppsala and Umeå. International partners are the Finnish, the Dutch and the Inter-Nordic gender research schools as well as the transdisciplinary gender research school at Humboldt University, Berlin. InterGender is linking these strong, but scattered research training units in a joint, systematized program of PhD courses, PhD supervisors' courses, thematic research seminars and conferences. A clustering of PhD students in long-term trans-institutional and ICT-facilitated discussion groups is an aim. It is expected that InterGender will generate synergies and a significantly enhanced level of quality due to critical mass and complementary expertise of the research staff. Pirjo Elovaara, Lena Trojer and Linda Paxling are working with InterGender.

The International Graduate School on Innovation Systems, Clusters and Development

As an impact of the development of the Innovation systems and Clusters program in East Africa (ISCP-EA) since 2004 and in Bolivia Cochabamba since 2007 one research component identified in the programme is PhD training. This component contributes with a research based understanding and practice of the development of innovative clusters and innovation systems. A number of active cluster facilitators have expressed a strong wish to do research as a PhD candidate within the frame of the ISCD or are already PhD students and wish to be linked to a graduate school of the ISCD.

The objective of the evolving International Graduate School is

- to develop research based understanding and practice of innovative clusters, inclusive innovation and emerging innovation systems and thus contribute to social/economic sustainability.
- to give PhD students international experiences and benchmarking possibilities within the core knowledge field of the graduate school as well as networking possibilities of value for future carrier.

Each PhD student will be registered in his/her home university and follows the regulations of the home university. The doctoral student will be free to participate in any of the activities offered by the graduate school. The participating doctoral student will receive a certificate from the graduate school when achieving doctoral degree.

The activities suggested include a curriculum catalogue, consortium of universities and key institutions, summer school focusing cluster development, innovation system and innovation and development studies, list of PhD themes linked to relevant problem identification and advanced supervisor collegium development.

Joshua Mutambi, Julius Ecuru and Carlos Acevedo do their research within the International Graduate School. Other PhD students are affiliated. An international group of supervisors is available. Meetings were conducted with the Vice Chancellor of the Nelson Mandela African Institute of Science, Technology and Innovation in Arusha, Tanzania, concerning an African university hub for the International Graduate School. The Director of the International Graduate School, Tomas Kjellqvist, is heading the development of a university consortium with the following partners (in the initiating phase) - Institute of Economic Research on Innovations, Tschwane University, South Africa, the Nelson Mandela African Institute of Science and Technology, Arusha, Tanzania, UMSS, Bolivia, UNU – Merit, Maastricht, Netherlands, Aalborg University, Denmark, BTH, Research Policy Institute, Lund University, Sweden.

Internationalisation

Partners in Developing Countries

Department of Computer Science and Engineering, College of Information and Communication Technologies, University of Dar es Salaam

Cooperation with the *Department of Computer Science and Engineering, College of Information and Communication Technologies (CoICT) at the University of Dar es Salaam (UDSM), Tanzania*, has earlier been on an e-learning project. After finalizing the project and receiving doctoral degree at both BTH and UDSM the collaboration with our colleagues from CoICT was during the year focused on planning for postdoc position. The collaboration also included development of an ICT cluster in Tanzania.

Nelson Mandela African Institute of Science and Technology

Cooperation with the new *Nelson Mandela African Institute of Science and Technology (NM-AIST) in Arusha, Tanzania*. The collaboration is focused on innovation systems and involves partners via SICD as well as ToS. Lena Trojer is adjunct professor at NM-AIST since 2012. Tomas Kjellqvist is director of the Graduate School (see above) with NM-AIST as one of the main partners.

College of Engineering, Design, Art and Technology, Makerere University

Cooperation with the *College of Engineering, Design, Art and Technology (CEDAT) at Makerere University, Uganda*, on e-learning, data-mining, GIS and innovation system projects. The form of cooperation is via doctoral studies and one postdoc. Two doctoral students, Joshua Mutambi and Julius Ecuru, conducted their Ph.D. studies at Makerere University and BTH with Ugandan research supervisors and Swedish research supervisors. Joshua Mutambi and Julius Ecuru defended successfully their doctoral thesis at Makerere university November 2013. Peter Okidi Lating from Makerere University is doing his postdoc in collaboration with BTH, ToS.

Muni University

ToS is a collaborating partner to the new *Muni University, Uganda*, in the development of the Faculty of Technoscience both concerning under graduate curriculum, research and ICT infrastructure development.

Universidad Mayor de San Simón

Cooperation with the *Universidad Mayor de San Simón (UMSS) in Bolivia* on development of innovation systems. The form of cooperation is via doctoral studies. One doctoral student, Carlos Acevedo at UTT (Technical Transfer Unit at UMSS) is doing his Ph.D. studies at BTH with two Bolivia research supervisors and two Swedish research supervisors.

The Scandinavian Institute for Competitiveness and Development

The Scandinavian Institute for Competitiveness and Development, SICD, placed at ToS and supported by Sida and VINNOVA continued its activities in East Africa and Bolivia, see the website www.sicd.se. The mission of SICD is to support social and economical development by facilitating cluster development and innovation. SICD include collaborations between Swedish and African partners since 2003 and Bolivian partners since 2007 in programs on Innovation Systems and Innovative Clusters. The African program is coordinated by *Pan African Competitiveness Forum, PACF*. PACF conducted during 2013 an annual conference in Mozambique, at which SICD was represented. The Sida funded Innovation System and Clusters Program in Mozambique continued. SICD collaborates with *FNI (National Research Fund Mozambique)* and conducted facilitator training in a team including experts from SICD and PACF-Tanzania and PACF-Uganda. In Bolivia the SICD team was supporting cluster development in Cochabamba in collaboration with *UTT at UMSS* and with *DIPGIS at UMSA (Universidad Mayor de San Andrès) in La Paz*.

International Graduate School on Innovation Systems, Clusters and Development International Graduate School on Innovation Systems, Clusters and Development

The development of the *International Graduate School on Innovation Systems, Clusters and Development* continued during the year, see above.

Partners in High Income Countries

Humbolt University, Berlin

ToS collaborates with *Humbolt University* via the *national graduate school InterGender*.

Bauhaus University, Weimar

The collaboration with *Bauhaus University and its Media Faculty* is long term relation and development and is highly valued by ToS. Some efforts was made to find new forms for collaboration.

The GenisLab

The project aims to implement structural changes in a group of selected scientific organisations in order to overcome the factors that limit the participation of women in research. The nine partners are: *CSIC (Spanish Superior Council for Scientific Research) Institute for Polymer Science and Technology, Spain; IPF - Leibniz Institute of Polymer Research Dresden, Germany; FTM UB _ Faculty of Technology and Metallurgy, University of Belgrade, Serbia; NIC_National Institute of Chemistry, Slovenia; INFN, National Institute for Nuclear Physics, Italy; BTH_Blekinge Institute of Technology, Sweden.* Technical partners are: *FGB- Fondazione Giacomo Brodolini, Italy; ITC/ILO_ International Training Centre of the International Labour Organization, Un Agency, International; ADS - Italian women in science organization, Italy.*

During the year the BTH team of GenisLab has worked with the BTH tailor made action plan (TAP). The results of the TAP work has been discussed with the BTH equality committee. The results has also been reported at GenisLab international conference. The vice chancellor of BTH has decided to integrate the TAP as a specific perspective in the score card, which is reported to the Swedish Government, in the new BTH organisation.

Cooperation between BTH, business and the community/politics

The cooperation profile of BTH is an explicit praxis in the activities of the Division of Technoscience Studies. Indeed, this praxis in itself constitutes empirical results for the production of knowledge, broadens the understanding of technology and innovation and creates relevance for the activities of ToS. Examples of such collaboration is the student award for their game Epigenesis, and the PhD student Linus de Petris whose doctoral studies is part of his employment at the municipality of Karlshamn (see above).

Publications

Erik von Bahr, Birgitta Rydhagen, Tomas Kjellqvist, Flower Msuya, **Lena Trojer** (2013) "Funding of Innovation and Cluster Development in Africa" in *Proceedings of the 4th PACF Conference* in Abuja, Nigeria.

Gerhard Bax, Lydia Kayondo Mazzi-Ndandiko, Sandy Stevens Tickodri - Togboa (2013)conference paper "Low Cost Road Condition Data Capture System for Sustainable Road Maintenance in Uganda", 26th International cartographic Conference *proceedings International Cartographic Association,* Dresden.

Linus de Petris (2013) *Om glappen vi skapar och de märken som blir – Materiell-diskusrsiva produkter i kommunkontext,* BTH Licentiate Dissertation Series No. 2013:12.

Julius Ecuru (2013) *Unlocking Potentials of Innovation Systems in Low Resource Settings,* BTH Doctoral Dissertation Series No. 2013:10.

Julis Ecuru, Lena Trojer, Peter Okidi Lating, Yasin Ziraba (2013), "Cluster development in low resource settings: The case of bioethanol and fruit processing clusters in Uganda", *Journal of Entrepreneurship and Innovation Management*, Volume 8.

Julius Ecuru, Peter Okidi Lating, Lena Trojer (2013) "Innovation Characteristics of Formal Manufacturing Firms in Uganda" accepted paper in *African Journal of Science, Technology, Innovation and Development.*

Pirjo Elovaara, Sisse Finken, Christina Mörtberg (2013) "The becoming of ethnographic data: when subjects and objects touch", *Proceedings 4S-konferens* i San Diego, 9-12/10.

Pirjo Elovaara, Linus de Petris et al. (2013) "Meaning making as a becoming: Sociomaterial orientations towards meaning making in organizational settings", *Proceedings First Nordic STS Conference,* Trondheim, Norge.

Pirjo Elovaara et al. (2013) "Ontological Settlement. Feminist Technoscientific Interventions In a Participatory Design Workshop" submitted to *International Journal of Gender, Science and Technology.*

Idowu, S., Hagos, D. H., Tesfay, W. B., Famurewa, A., Rana, J., **Kåre Synnes** (2013) "NexTrend: Context-aware music-relay corridors using NFC tags", 7th International Conference on Innovative Mobile and Internet Services in Ubiquitous Computing: IMIS 2013, Taichung, Taiwan, *IEEE Computer Society Press.*

Tomas Kjellqvist (2013) *Biståndspolitikens motsägelser om kunskap och tekniköverföring — från konkret praktik till abstrakt policy,* BTH Doctoral Dissertation Series No. 2013:09.

Lydia Kayondo Mazzi-Ndandiko, Gerhard Bax, Sandy Stevens Tickodri - Togboa (2013) "Object Based GIS-T Data Model for Road Infrastructure Maintenance in Uganda", *Geoinformatics & Geostatistics: An Overview*, SciTechnol.

McDonald, H., Nugent, C., Hallberg, J., Finlay, D., Moore, G., **Kåre Synnes** (2013) The homeML suite: shareable datasets for smart home environments", *Health and Technology*, Vol. 3, Issue 2.

Gerald Mugalu, **Lydia Kayondo Mazzi-Ndandiko** (2013) conference paper "An Assessment of the Flood Plain of River Malaba Catchment", *proceedings 2nd Conference on Advances in Geomatics Research*, Makerere University, Kampala

Joshua Mutambi (2013) *Stimulating Industrial Development in Uganda through Open Innovation Business Incubators,* BTH Doctoral Dissertation Series No. 2013:11.

Birgitta Rydhagen (2013) *Genus och miljö*. Lund: Studentlitteratur.

Rana, J., **Kåre Synnes**, Morshed, S. (2013) "End-user creation of social apps by utilizing web-based social components and visual app composition", *ACM SIG Proceedings*. ACM Digital Library.

Rana, J., **Kåre Synnes**, Kristiansson, J. (2013) "Ad-hoc Social Network Formation for Tailored Collaboration in Shared Spaces" accepted paper in *International Journal of Social Computing and Cyber-Physical Systems.*

Rana, J., **Kåre Synnes**, Kristiansson, J. (2013) "Controlled Viral Distribution of Digital Media based on Analysis of Ego-Centric Networks" in *International Journal of Social Computing and Cyber-Physical Systems.*

Kåre Synnes, Kranz, M., Rana, J., Schelén, O. (2013) "User-Centric Social Interaction for Digital Cities Creating Personal, Social, and Urban Awareness through Pervasive Computing" in Guo, B., Riboni, D. & Hu, P. (eds). *IGI global.*

Lena Trojer (2013) Gender Research as Knowledge Resource in Technology and Engineering" in Waltraud Ernst, Ilona Horwath (eds) *Gender in Science and Technology, Interdisciplinary Approaches,* Transcript Verlag, Bielefeld.

Lena Trojer (2013) "The Relevance of Disciplinary and Transdisciplinary Research in Cluster Contexts of Low Income Countries", accepted chapter in Birgitta Rydhagen, Lena Trojer (eds.) *The role of Universities in inclusive innovation. Cluster development in East Africa,* Nelson Mandela African Institute of Science and Technology, Arusha.

Media Coverage about the Division of Technoscience Studies and its Members

Birgitta Rydhagen (2013) presented her book "Genus och miljö" (Gender and Environment) in *Genusperspektiv* nr 2 in the article "Förbisedda hjältar i ny bok om miljö" (Overlooked Heroes in a New Book about Environment). Also presented at open seminar *Nakna Sanningar om klimat och genus (Naked truths about climate and gender)* Linköping University, 9 april.

Lena Trojer (2013) in *Genusperspektiv,* nr 2, interview by Jimmy Sand "Kamp för kunskapen på Sveriges mindre lärosäten" (Struggle for Knowledge at Swedish Smaller Universities).

Lena Trojer (2013) in *Riksdag&Departement* 12 april, interview by Beata Hansson "För rik för bistånd" (Too Rich for Developing Support).

National Conference for University Game Teachers press
http://www.unt.se/kultur/fler-kvinnor-mal-for-utbildare-2500183.aspx
http://lund.lokaltidningen.se/spellarare-bygger-broar-/20130619/artikler/706199859
http://www.bth.se/web/kalendarium.nsf/sidor/7CB4472571480CA9C1257B7800454DBE?OpenDocument
http://sverigesradio.se/sida/artikel.aspx?programid=105&artikel=5559751

Epic Games, Inc., creators of award-winning games and game technology, awarded the first prize in the grand finale of Make Something Unreal Live (MSUL) 2013, the European student game development competition to the team from BTH; **Dead Shark Triplepunch** with the game Epigenesis. The team developed their game using Epic's Unreal Development Kit (UDK), the free edition of Unreal Engine 3 (UE3). Additional information about Epic can be obtained at www.epicgames.com.

Commissions

Below is a presentation of commissions the staff members at the Division of Technoscience Studies had during the year, both at BTH and elsewhere. A conclusion to be drawn from the list of commissions as well as what is presented above, is that the collected expertise found at ToS is relevant in numerous important contexts.

Peter Ekdahl

- Co-supervisor for the PhD student Anders Falk

- Dean of School of Planning and Media Design 2009-2013

Pirjo Elovaara

- Supervisor for Linus de Petris in his PhD project "Technology as an intrinsic part of humans from eGovernment to iGovernment"

- Member of the Gender Expert Group at National Research Council 2010-2013

- Board member of the National Graduate School InterGender, 2008 –

- Member of the national research network Gender and Development studies (GADNET)

- Reviewer for Information, Communication and Society Journal, Graduate Journal of Social Science and Women, Work and Organization

- Committee member for IADIS ICT, Society and Human Beings conference and Participatory Design Conference 2014

- Initiator and organizer of the first femininst design pedagogy symposium, in co-operation with Linneaus University, Malmö University, Umeå University and BTH, 17-18 December in Malmö

- Member of the reference group for the Regional Digital Agenda in Blekinge, ReDA

- Node at BTH for the SPIDER network.

Peter Giger

- Member of the planning committee for the culture house, Östra Piren, Karlshamn

- Member of the research network "Digital Art and Culture in the Age of Pervasive Computing'

- Editor and technical developer of International Journal of Feminist Technoscience

- Supervisor for Anders Falk in his PhD project "The digitizing of rituals; aesthetics in digital media"

- Supervisor for Linda Paxling in her PhD project "The reality producing dynamics of the mobile artefact in East Africa"

Tomas Kjellqvist

- Vice-Chair of the Swedish National Commission for UNESCO

- Member of the scientific expert group for UNESCO, coordinated by the Swedish Research Council

- Member of the Advisory Board to CAAST-Net

Linda Paxling

- Editor of Technoscience.se

- Moderator of editorial team, International Journal of Technoscience and Development (IJTD)

Birgitta Rydhagen

- Member of the national research network Gender and Development studies (GADNET)

- Supervisor to PhD students Joshua Mutambi, Julius Ecuru and Carlos Acevedo.

- Reviewer for International Conference on Engineering and Meta-Engineering (ICEME)

- Reviewer for the European Journal of Engineering Education (EJEE)

- Reviewer for Tidskrift för Genusvetenskap, www.tegeve.se

Lena Trojer

- Adjunct professor at Nelson Mandela African Institute of Science and Technology, Arusha, Tanzania, 2012 -

- Board member of the National Graduate School InterGender, 2008 -

- Member of the National Steering Committee of PACF-Tanzania 2006 -

- Member of PACF Council 2010 –

- Director of Scandinavian Institute for Competitiveness and Development (SICD), DSN, BTH, 2008 -

- Board member of the Savings Bank's Foundation of Karlshamn Bank, 2002 –

- Board member of NetPort.Karlshamn, 2004 –

- Member of the Grading Committee for the Zeinab Tageldeen's doctoral thesis, School of Architecture and the Built Environment, KTH

- Reviewer of application for a position as professor at Linköping University.

- Reviewer of paper for The African Journal of Information Systems (AJIS).

- Reviewer of applicant for fellowship to the African Academy of Sciences (AAS)

- Reviewer of application for Institutional Grants concerning International Summer School on ICT for Democracy to The Swedish Foundation for International Cooperation in Research and Higher Education (STINT).