## My skills in summary

User centered design methods (cf. service design) including, for example, field studies, concept development, prototyping, experience maps, workshops, needs analysis, and gap analysis. Risk analysis, knowledge about health care, "verksamhetsutveckling", information management, process modeling, strategy and planning, structured work, project management, program manager, personnel manager, IT in health care, telemedicine, telehealth, empowering the patient, network based care, visualization, decision systems, knowledge management, giving presentations, teaching, fluent in English.



#### Bio

I have worked within health care since 2007, first mainly as a researcher and then with telemedicine and innovation development. During a post doc in mediated communication at Karolinska Institutet (KI), I conducted research at Karolinska University Hospital (Karolinska) at the gastro surgical department, and led a large research project as a collaboration between KI and KTH. My research at the hospital evolved into a long-term collaboration, and since 2010 I have been responsible for telemedicine development at the Center for Innovation. I was one of the first employees at the center, and contributed to the establishment of the organisation by leading strategic projects and participating in the management board of both the Center for Innovation and the "stab" Development and Innovation. I have introduced user-centered design (service design) methods and taken an active part in the establishment of testbed environments at the center. I have lately had a leading role in developing the initial processes of working with innovations, i.e. filtering, evolvement and evaluation of initiatives, and the strategy of innovation areas at the Center for Innovation. I also have the responsibility for the program health care at a distance and for being the main contact person for Tema Neuro at the center.

#### Methods

In my earlier work as a researcher and as an innovation developer today, I have been working with the following methods: user-centered design methods including different kinds of workshops like video prototyping, focus groups etc, field studies including observations and interviews, other data collection methods like questionnaires and group interviews, management methods like gap analysis, SWOT analysis, risk analysis. At the Center for Innovation I have been responsible for some parts and involved in other parts of the development of our innovation methods, including the portfolio management.

### Present employment

2010-06-01 Responsible for Telemedicine development, Centre for Innovation, Karolinska University Hospital (Karolinska)

The centre started officially at the end of 2011, but I was working part time at the organization from which the centre emerged, i.e., the gastro surgical department. I have been responsible for telemedicine development since 2010 and for the program health care at a distance since 2014 when the centre introduced programs. I have been section manager two years 2014-2016, with eight employees. I am since 2017 the main contact person, at the centre, for one of the hospital themes; Tema Neuro. I have developed innovation strategy and methods, and introduced user-centered design methods at the centre.

2009 – Associated to CLINTEC, Karolinska Institutet (KI)

#### Previous employments

i revious empi	loyments
2014 - 2015	Adjunct professor in Human-Computer Interaction (HCI) at School of Computer
	Science and Communication, Royal Institute of Technology (KTH) (20%)
2010 - 2013	Senior lecturer in the field of HCI at the School of Computer Science and
	Communication, KTH (50%)
2009 - 2010	Senior researcher in the field of HCI at the School of Computer Science and
	Communication, KTH
1994 - 2009	PhD student and researcher in the field of HCI at the School of Computer Science and
	Communication, KTH
	I have been responsible for and participating in research projects within different areas, mainly

I have been responsible for and participating in research projects within different areas, mainly health care since 2007, supervised PhD-students, and been responsible for teaching activities. My personal focus from 2007 was on bridging the gap between research and health care.

1991

2007 – 2009	Post doc at CLINTEC, Karolinska Institutet (KI) (50%) I participated in a European project (HDViper) focusing on mediated communication in health care settings. I was responsible for the field studies and gathering user requirements conducted at the gastro surgical department at Karolinska.	
2005 - 2010	Senior consultant at Groth & Groth AB I participated with HCI-competence in different consultancy projects, for example investigating communication channels at Uppsala Universitet and collecting user requirements for a new information system at FMV, two assignments that involved interviews and workshops among the members of the organisations.	
1996 – 2002	Part time parental leave with two of my children, one born 1996 and one born 2001	
1991 – 1994	Development engineer, Ellemtel Utvecklings AB	
1989 - 1990	Study counsellor, School of Computer Science and Technology, KTH	
1985 - 1986	Network planning engineer, the Swedish PTT	
Academic degrees		
2012	Associate professor in Human-Computer Interaction at School of Computer Science and Communication, KTH	
2004	PhD in Human-Computer Interaction at Department of Numerical Analysis and Computing Science, KTH	
1999	Techn. Lic. in Human-Computer Interaction at Department of Numerical Analysis and	

MSc in Computer Science at School of Computer Science and Technology, KTH

Computing Science, KTH

## **Project responsibilities**

2017 – Testing the concept Hospital at Home at Karolinska

As responsible for the program of health care at a distance, I'm also responsible for the progress of this project lead by Fredrik Öhrn. Through a pilot with the heart failure clinic we plan to test the concept of monitoring patients at home instead of having them stay the last days of the care chain at the hospital. The patient category is selected based on those coming to the emergency, being well apart from the condition that made them seek acute care, and with a progress in the care that is positive.

2016 – Telecytology – en tjänst för effektivare utredning och behandling

My role is to support the endoscopy department and gastro surgical department at Karolinska with telemedicine issues in the project. The project aim is to, in realtime, assess images of tumor samples at a distance, from the intervention room to the cytology lab; to get a first response to if the sample representative or not. My work in the project involves collecting requirements, solving technical issues and supporting the establishment of new work practices. The project has tested the concept in clinical environment and further tests are planned. The project has been on hold during 2017 and will restart during 2018. The first part of the project has been financed by Innovationsfonden, SLL.

2015 – Neurology consultation at a distance

The project started with a PoC, followed by a national upscale, and is presently continued with identifying reliable indicators for advanced treatment. My role through these phases has been to coordinate the project. The aim of the project is to improve the care chain, and ensure that the right patients get the right treatment at the right time. Consultations every week now provide knowledge and insights to lower care levels. In order to identify patients that may not be considered for advanced care at lower care levels, we are now working on finding indicators that can identify these patients. The project is financed by AbbVie.

2010 – ERCP guiding at the distance

The project started with a PoC 2010-2011, I was project leader. The second part, focusing on parallel guiding, started in 2015, I have, in periods, been project leader and coordinated the project. I wrote part of the application for financing. The aim of the project is to develop and scientifically prove a services for guiding surgeons/endoscopists at a distance. There is one publication of the PoC, one publication in progress focusing on health economy, and one publication planned focusing on the acceptability of and interest in the service. Final data collection is conducted during spring 2018. The second part of the project was financed by Boston Scientific. Both parts have been triple-helix constellations, the first with Polycom and the second with Boston Scientific.

2016 – 2017 Examining expectations, perceptions and experiences of video-mediated visits in outpatient care

Responsible for the study of offering video-visits in outpatient care at Karolinska, exploring expectations, changes of conducting the meeting, changes in hierarchies, challenges in implementation etc. The data collection of users' perception of the service is finished, two publication has been submitted for publication. In collaboration with KI where a soon to be PhD-student has conducted the study.

2016 – 2017 Utveckling och utvärdering av ett nytt behandlingskoncept för MS med distansvård Supporting the neurology department at Karolinska to do a pilot on using technology for getting feedback on the patient's adherence of medication. The project was closed due to few number of patients that were relevant for the medication using the auto injectors. A collaboration with Merck.

2015 - 2017 Nordic network of testbeds

I was responsible for WP3 focusing on developing a business model for a nordic network of testbeds. I was also responsible for Karolinska's work in the project. The project ended in November 2017 and continues to run as a Nordic network called Nordic Proof. Financed by Nordic Innovation and Vinnova.

2011 – 2017 Home titration

The project started with a proof of concept with three patients, followed by a national study together, and last finding a new technical solution. The patient can stay at home instead of being in hospital during the treatment period. One publication based on the national study has been accepted for publication. The concept is today implemented and used in production. The first two parts of the project has been triple-helix collaborations, all parts have been financed by AbbVie (Abbott when the project was started).

2015 - 2016 Implementation of a solution for care of chronic ill patients in the home

I was responsible for one work package focusing on legal issues and work processes. The project
is a good example of a project driven from outside of health care where we struggled with

responsibilities in a complicated setup. The project focused on COPD patients and providing a solution for them to be monitored by health care. A triple-helix collaboration financed by Vinnova. An external part was responsible for the project.

### 2015 – 2016 Introducing telemedicine in outpatient care at Karolinska

I was project leader. The aim of the project was to develop a telemedicine solution for video visits in out patient care and establish a process for implementation in outpatient care at Karolinska. Maintenance of the solution was been difficult as well as getting resources for supporting the implementation process. New technical solution will implemented soon within the project Digitala patientkontakter. Patient flows with treatment programs have been the first ones to adopt the new way of meeting with patients. We still continuously support interested clinicians to start using the concept.

#### 2012 - 2015 Karolinska Testbed

I coordinated the project from the beginning and was project leader during the last six months. The results from this project has partly built structures at Innovationsplatsen. The project focused on developing methods and work processes for early tests to tests in production environment, focusing on user centered design methods, early gathering of user requirements, legal requirements, patient safety etc. Today the testbed is (part of) Innovationsplatsen. Financed by Vinnova with a budget of 8 msek for Karolinska.

#### 2012 – 2013 Soundlight Comfort

I was responsible for this project where Innovationsplatsen initiated a collaboration with Philips regarding the light environment. We installed a led-light solution from Philips at Innovationsplatsen, and all employees were users in a research study conducted by KTH. This was a triple-helix collaboration.

#### 2011 – 2014 Innovationshubben för vård på distans

Project leader during the first year, thereafter coordinating the project and had the main responsibility for it. I was also responsible for the KTH part in the project. I was responsible for and wrote the main part of the application for funding. An interesting initiative that was ahead of time. Today the need for this kind of initiative is mentioned by several organisations. We wanted to implement a national hub for issues related to health care at a distance. The interest was large from the county councils but we did not receive funding for the implementation phase. In the project we used user centered design methods to gather requirements from eight different patient flows. We developed patient experience maps for some of the patient flows. We developed routines and processes for how to work with telemedicine solutions in a safe and efficient way. The project was conducted in close collaboration with VLL, but involved a large number of partners from academia and industry. Financed by Vinnova with a total budget of 26 msek.

#### 2010 - 2013 eMedic

I was responsible for one of the work packages and for the work conducted at SABH. I wrote part of the application for financing. We worked with diabetes foot team and home care at SABH to develop and implement a telemedicine solution for using video visits at primary care units and at the patient's home. Among others, we spent one year with SABH, understanding the requirements and supporting the implementation of using iPads. Other countries participating were Finland, Estonia and Latvia. The project was financed by Central Baltic with a budget of 2,4 msek for Karolinska.

#### 2009 – 2012 Vårdplatskoordinering

I was coordinator of the project. This project actually started before Innovationsplatsen existed. I had the opportunity to participate and support GastroCentrum to conduct this project where we introduced a solution for clinical logistics at the gastro wards. The problem was that in a logistic system you need to have the whole chain of flow, not just one. Another problem was the integration with TakeCare, something that was too expensive for one clinic to take. One of the wards were happy with the system as a stand-alone system, but had to shut it down in 2015 due to server costs. This was a collaboration with a Danish startup company Cetrea.

#### 2009 - 2011 CareNET

A KI-project focusing on mediated communication between caregiver and patient. Together with another person from KI I developed a scenario for testing technology and work practices. I participated in writing the KI part of the application together with Björn Pehrson from ICT School at KTH). KI received  $\sim 600$  thousand SEK in budget.

#### 2008 - 2011 FunkIS

I was responsible for the whole project involving two main research parts, one focusing on information visualization during the care pathway and on using haptic technology in radiology images. Eight researchers from KTH were involved, and five clinicians from Karolinska were more active in the project. The project started with an initial phase of gathering requirements,

understanding the settings, concept development and testing ideas to finally test prototypes in simulated production environments. This was a large research collaboration between KTH and KI-representatives working clinically at Karolinska, it was financed by Vinnova with a budget of almost 8,7 msek. I wrote the main part of the application.

2007 - 2009 HDViper

A European project focusing on developing a software video conferencing client. This was my post doc. project where I focused on collecting needs for mediated communication in clinical settings, in this case the multi-disciplinary video mediated team meetings that were developed and introduced at GastroCentrum a couple of years earlier. Financed by Vinnova.

# **Assignments**

Assignments a	it Kare	olinska
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Assignments at Karolinska		
2017 -	Part of the operative steering group in the project Digitala patientkontakter focusing on implementing IT-services such as video visits, PEP, journal på nätet, App-plattform, tidsbokning etc.	
2017 -	Part of the working group "Uppdrag två NVM-staber Informationsförsörjning/BI" focusing on "samordning av projekt som berör hela värdekedjan av data från masterdata till praktiskt användande av data och informationsförsörjning i klinisk och administrativ verksamhet". The project is driven by SSVP.	
2016 -	Responsible for the program health care at a distance, where I, among others, in collaboration with two colleagues, develop the strategy for how the Center for Innovation is going to work with the programs. This strategy has also been the ground for the strategy of the Center for Innovation.	
2013	Establishing a partnership with Boston Scientific around Severe Asthma, Heart Failure and ERCP. Anders Nordström and I wrote the framework for the partnership.	
2012 -	Responsible for telemedicine development at Centre for Innovation.	
2016 - 2017	Responsible for the strategic work with developing portfolio methods and processes for filtering and working with new initiatives at Centre for Innovation. The methods and processes are currently being implemented at the Centre, and we are using them today for the filtration process and adapting them for the assessment process.	
2013 - 2016	Responsible for the program health care at a distance at Centre for Innovation.	
2013	Responsible for the Karolinska booth at Vitalis, including live presentations of telemedicine projects at Karolinska and VLL, and of the Centre for Innovation at Karolinska including the Karolinska Testbed project.	
2012 - 2015	Member of the management board at the department Centre for Innovation.	
2012 - 2015	KTH-representative in the management board at the stab Development and Innovation (UoI).	
2012 - 2014	KTH-representative in the management board at the department eHealth and strategic $$ IT.	
2008 - 2009	Expert advisor in the workgroup of a telemedicine strategy.	
Assignments at KTH		
2014 - 2015	Member of the Life Science Technology team	
2011	Member of KTH Samtal reference group, Royal Institute of Technology	
2011 2012	Marshau af wall and a far a marshau and in it manager a city and with tack air of farms at	

2014 - 2015	Member of the Life Science Technology team
2011	Member of KTH Samtal reference group, Royal Institute of Technology
2011 - 2012	Member of work group for a professorship in nursing science with technical focus at Röda Korsets Högskola
2011 - 2012	Member of the KTH Medical and Biomedical Platform internal reference group
2011	Member of work group for a professorship in interaction design at CSC
2010 - 2011	Member of the KTH MedTech platform strategy group
2010	Member of work group for a professorship in visualisation at CSC
2009 - 2011	Responsible for the EIT ICT KIC Health and well being at the Stockholm node
2009 - 2011	Member of the management board at the Department of HCI, School of Computer Science and Communication, Royal Institute of Technology
2009 - 2011	Leader of the Interaction design team at the Department of HCI, CSC, KTH
2008 - 2009	Member of the CSC HumCom strategic group
2006 - 2007	Project coordinator at the Department of HCI, CSC, KTH

## Other assignments

2018	Evaluating research proposals for VINNOVA within the call "Framtidens drönare - Drönare för individer och samhälle" $\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	
2017	Member of the grading committee at the dissertation of Johan Dahlén Gyllencreutz, Benefits and risks with digital dermoscopy and teledermoscopy, University of Gothenburg.	
2016 -	Member of a working group of service design at SLL, supporting the innovation manager with providing a strategy for the next years	
2016 - 2017	Sakkunnig, Telemedicin, vård och specialistkunskap på distans, SBU - Statens beredning för medicinsk och social utvärdering.	
2016	Evaluating research proposals for VINNOVA within the call "Patientinnovationsslussar"	
2013	Session chair at The 4th international workshop on Infrastructures for Healthcare: Action Research, Interventions, and Participatory Design	
2011	Member of the scientific committee at the dissertation of Preben Wik, CSC, KTH	
2009	"Omvärldsanalys kunskapshantering", a report written for VINNOVA	
2009	Evaluating research proposals for VINNOVA within the call "Var dags IT, IT-demonstratorer NYTTA 2009"	
2009	Session chair at INTERACT 2009, Sweden	
2009	Workshop organiser at INTERACT 2009, Sweden	
2009	Session chair at HealthInf 2009, Portugal	
Reviewer at conferences (e.g., CBMS, CHI and CSCW)		

Reviewer of journals (e.g., Journal of Medical informatics and BIT)

# **Personal details**

Kristina Groth Name June 5<sup>th</sup>, 1963 Date of birth Home address

Sigynvägen 3 182 64 Djursholm

kristina.groth@gogab.se 0707 573662 Contact

### **Presentations and Collaborations**

### External presentations

2017	Telemedicin: En del av helheten, invited speaker at IT i vården-dagen,
	Münchenbryggeriet, December.
2017	Invited speaker in the panel discussion "Unveiling the Challenges of mHealth Implementation Within the Healthcare System to Improve the Treatment and Follow-up of the Patients" and hosting the round table discussion "How is mHealth enabling personalised care – giving patients the right service, at the right time in the right setting?" at Nordic mHealth Technology Congress, Stockholm, November.
2017	Telemedicin gör vården säkrare, mer jämlik och effektivare, invited speaker at StrategiTorget Hälso- & Sjukvård, Hasseludden, October.
2017	Innovating Healthcare Delivery with e-Health Technologies, invited speaker at Trinity College, Dublin, June.
2016	Innovative Solutions in Telemedicine, invited speaker at Albert Einstein Hospital, Brazil, August.
2016	How to Drive Innovation at a Hospital, invited speaker at Tallinn Science Park Technopol, Estonia.
2016	Telemedicin som stöd för vård på distans, invited speaker at the conference Effektivare flöde i vården, för högre kvalitet och patientfokus, organised by Teknologisk Institut, Stockholm.
2016	Innovative Solutions in Telemedicine, invited speaker at Cisco conference, Sweden.
2015	Telemedicin i öppenvården, selected for presentation at Vitalis.
2014	Participating in a panel with VLL in Almedalen.
2013	Presentation of Karolinska's projects and activities at Vitalis, including live streaming
2013	Innovation Centre, invited speaker at Digital Health Days (together with Jörgen Larsson), Stockholm.
2013	Presentation of the Health Care at a Distance at Merck Serono Satellite Symposium: Taking GH Therapy to New Frontiers. Invited by Merck AB to present Karolinska activities within health care at a distance at the 9th Joint Meeting of Paediatric Endocrinology.
2013	Invited by Oslo Medtech to present Karolinska projects and activities at a network meeting on testbeds.
2012	Guest lecture (ICT development in healthcare) in the course Medical information and communication systems, Module Health Informatics, given by Thomas Lindh at the STH school at KTH
2012	Invited member of the panel at Västerbotten's presentation in Almedalen
2008	Guest lecture together with Johan Permert (Kvalitetsskapande organisation av högspecialiserad kirurgi – Vision eller hallucination?), part of seminar II (Organisationsperspektiv på säkerhet) in a course about patient safety given by Synnöve Ödegård at the STH school at KTH

### Internal presentations for international visitors at Karolinska

Preceptorship Top Manger Training for Spanish delegation at Karolinska, September 2017 Delegation from Polen, June, 2017 Rwanda, minister of health, ambassador in Sweden, 2017 Brazil, Colombia, Baskien, India, and Thailand, 2015 Kyoto, Japan January and September 2014 Turkey and Estonia, 2013 China, November 2012

## Other international collaboration

2016	Invited participant at EHMA V	Vorkshop on innovation.	Brussel November.

2013 Invited participant at EHMA Workshop on innovation, Brussel.

2012 - 2014	Visiting Macedonia and Turkey together with Karolinska's section for Cross Border Care.
2008 - 2012	Collaboration on health care research with Jeremiah Scholl (first at Tromsø, then at KI)
2007 - 2012	Collaboration on health care research focusing on MDTMs with Bridget Kane, research fellow at Trinity College, Ireland, presently working in Karlstad.

# Other responsibilities

2012 - 2014	eHealth collaboration with Hospital Clinic in Barcelona
2011 - 2013	Master thesis projects

## **Appendix: Publications**

### Journal publications (peer reviewed)

- Sturesson L, Groth K. Is the Patient Suited or Not? Clinicians' Selection Criteria for Video Visits in OutPatient Care. Accepted for publication in J Med Internet Res
- Sturesson L, Groth K. Effects of the Digital Transformation: Qualitative Study on the Disturbances and Limitations of Using Video Visits in Outpatient Care. J Med Internet Res 2018;20(6):e221. DOI: 10.2196/jmir.9866. PMID: 29950290. PMCID: 6041556
- Willows, T., Dizdar, N., Nyholm, D., Widner, H., Grenholm, P., Schmiauke, U., Urbom, A., Groth, K., Larsson, J., Permert, J. & Kjellander, S. (2017) Initiation of levodopa-carbidopa intestinal gel infusion using telemedicine (video communication system) facilitates efficient and safe home titration in patients with advanced Parkinson's disease. Accepted for publication, *Journal of Parkinson's Disease*.
- Groth, K., Algers, G., Arnelo, U., Eliasson, G., Larsson, J., Molén, T. (2014) Telemedicin leder till ökad patientnytta. Läkartidningen 43, 2014;111:C3XT
- H.-I. Påhlsson, K. Groth, J. Permert, F. Swahn, M. Löhr, L. Enochsson, L. Lundell, U. Arnelo (2013) Telemedicine: an important aid to perform high-quality endoscopic retrograde cholangio-pancreatography in low-volume centers. *Journal of Endoscopy*.
- Scholl, J. & Groth, K. (2012) Of Organization, Device and Context: Interruptions from Mobile Communication in Highly Specialized Care. *Interacting with Computers*, Elsevier
- Frykholm, O. & Groth, K. (2011) References to Personal Experiences and Scientific Evidence during Medical Multi-Disciplinary Team Meetings. *Journal of Behaviour and Information Technology*, 30 (4), special issue on Medical Team Meetings.
- Groth, K., Olin, K., Gran, O. & Permert, J. (2008) The role of technology in video-mediated consensus meetings. *Journal of telemedicine and e-health*, 14 (7).
- Groth, K., Bogdan. C., Lindquist, S. & Sundblad, Y. (2007) Simple and playful interaction for informal communication and learning. *Int. J. Knowledge and Learning*, 3, no. 2/3.
- Groth, K. (1998) Personal Home Pages on the World Wide Web–a Simple Version of a Knowledge Net?. Trends of Communication, 4.

### Conference publications (peer reviewed)

- Fredriksson, J., Groth, K., Räsänen, M., Bergius, H. & Rylander, E. (2014) Effects of mobile videomediated communication for health care professionals in advanced home care of children. In Proceedings of IEEE CBMS.
- Kane, B. & Groth, K. (2014) Multidisciplinary Work Practices: A Comparison of Three Major European Hospitals. In Proceedings of IEEE CBMS.
- Nilsson, M., Groth, K., Yngling, A., Hammarquist, F. and Jernling, C. (2013) Remote supported trauma care: Understanding the situation from afar. Proceedings of CBMS.
- Groth, K., Frykholm, O., Nilsson, M. & Yngling, A. (2012) Information Overview in the Care Chain: Visualisation Support in Highly Specialised Health Care. Proceedings of IEEE APAMI.
- Frykholm, O., Nilsson, M., Groth, K. & Yngling, A. (2012) Interaction design in a complex context: medical multi-disciplinary team meetings. Proceedings of NordiChi.
- Nilsson, M., Frykholm, O., Groth, K., Yngling, A. (2011) Interactions with mobile units in collocated MDTMs. Workshop on Designing and Evaluating Mobile Systems for Collocated Group Use. MobileHCI, Sweden.
- Sallnäs, E-L, Moll, J., Frykholm, O., Groth, K. & Forsslund, J. (2011) Pointing in Multi-Disciplinary Medical Meetings. In Proceedings of IEEE CBMS.
- Olwal, A., Frykholm, O., Groth, K. & Moll, J. (2011) Design and Evaluation of Interaction Technology for Medical Team Meetings. In Proceedings of INTERACT.
- Frykholm, O., Lantz, A., Groth, K. & Walldius, Å. (2010) Medicine Meets Engineering in Cooperative Design of Collaborative Decision-supportive System. Proceedings of IEEE CBMS.
- Groth, K., Frykholm, O., Segersvärd, R., Isaksson, B. & Permert, J. (2009) Efficiency in Treatment Discussions: A Field Study of Time Related Aspects in Multi-Disciplinary Team Meetings. Proceedings of IEEE CBMS.
- Engström, C. & <u>Groth</u>, K. (2009) Understanding needs and requirements in applications for identifying clinically relevant similarities between patients with liver related diseases. In Proceedings of HealthInf, Portugal.
- Groth, K., Lindqvist, S., Bogdan, C., Lidskog, T., Sundblad, Y. & Sandor, O. (2006) Saxaren Strengthening Informal Collaboration among Geographically Distributed Teachers. Proceedings of OzCHI, Australia, ACM.
- Groth, K. & Lannerö, P. (2006) Context Browser: Ontology Based Navigation in Information Spaces. In Proceedings of IIiX, ACM.

- Sandor, O., Bogdan, C., Groth, K. (2005) Cooperative Learning through ICT: the Case of the Swedish Teachers Abroad. In Proceedings of EISTA, Orlando, USA.
- Groth, K., Bogdan, C., Lindqvist, S., Räsänen, M., Sandor, O. & Lidskog, T. (2005) <u>Creating a Space for Increased Community Feeling among Geographically distributed Teachers</u>. In Bertelsen, O.W., Bouvin N.O., Krogh P.G. & M. Kyng, Proceedings of the 4th decennial conference on Critical computing: between sense and sensibility, ACM.
- Groth, K. (2004) A Technological Framework Supporting Knowledge Exchange in Organizations. Proceedings of NordiChi, Tampere, Finland.
- Groth, K. and Bowers, J. (2001) On finding things out: Situating organisational knowledge in CSCW. Proceedings of ECSCW, Kluwer Academic Publishers.
- Groth, K., Lantz, A. (1997) Personliga hemsidor: Funktion eller passion? In Proceeedings of STIMDI.

#### Conference publications (peer reviewed abstracts)

- Sundkvist, A., Willows, T. & Groth, K (2016) Telemedicine for meeting patients at home. Proceedings of ETC, Oslo.
- Groth, K., Arnelo, U., Aminoff, H., Frykholm, O. & Sundkvist, A. (2016) Designing for interactivity in a tele-guidance setting. Proceedings of ETC, Oslo.
- Sundkvist, A., Johansson, A. & Groth, K. (2016) Neurology consultations at a distance. Proceedings of ETC, Oslo.

#### Workshops and posters

- Groth, K., Frykholm, O., Aminoff, H., Bergenzaun, P., Arnelo, U. & Lundell, L. (2016) Interaction During Remote Guiding of Endoscopic Surgery: An Explorative Study. Poster at Workshop on Interactive Systems in Healthcare (WISH), ACM CHI.
- Groth, K. & Frykholm, O. (2013) Building trust: HCI researchers at a Gastro Surgical Department. Position paper to workshop at CHI. (Two reviewers, 20 of 36 position papers accepted.)
- Groth, K. & Scholl, J. (2013) Coordination in Highly Specialised Care Networks. Proceedings of CSCW 2013, Interactive Poster.
- Groth, K., Erykholm, O. & Yngling, A. (2011) Clinical Journal: A Collaborative Shared Medical Workspace. In Proceedings of CSCW'11, (Note: Interactive Poster).
- Groth, K., Lantz, A., Sallnäs, EL., Frykholm, O., Green, A. (2009) Team Meetings within Clinical Domains Exploring the Use of Routines and Technical Support for Communication. Workshop organized at Interact, Sweden.

#### **Book chapters**

- Taneva, S., O'Kane, A. A., Ratwani, E., Hilligoss, B., Thieme, A. & Groth, K. (2015) Establishing and Maintaining Relationships in Healthcare Fields. In Furniss, D., Randell, R., O'Kane, A., Taneva, S., Mentis, H. & Blandford, A. (Eds.) Fieldwork in Healthcare: Guidance for investigating human factors in computing systems [Volume2] Morgan & Claypool Publishers.
- Groth, K. & Frykholm, O. (2014) Building Relationships: HCI Researchers at a Gastro Surgical Department. In Fieldwork for Healthcare: Case Studies Investigating Human Factors in Computing Systems. Furniss, D., O'Kane, A. A., Randell, R., Taneva, S., Mentis, H. & Blandford, A. (Eds). Morgan & Claypool Publishers.
- Severinson-Eklundh, K., Groth, K., Hedman, A., Lantz, A., Rodriguez, H. & Sallnäs, E-L. (2001) The World Wide Web as a social infrastructure for knowledge-oriented work. In H. van Oostendorp (editor), Cognition in a digital world, Lawrence Erlbaum Associates.

## **Editorials**

Kane, B., Groth, K. & Randall, D. (2011) Medical Team Meetings: Utilising technology to enhance communication, collaboration and decision-making. Special issue on Medical Team Meetings. In Journal of Behaviour and Information Technology 30 (4).

#### **Thesis**

- Groth, K. (2004) On Knowing Who Knows An Alternative Approach to Knowledge Management. Ph.D. thesis, TRITA-NA-0428, Royal Institute of Technology.
- Groth, K. (1999) Knowledge Net A Support for Sharing Knowledge within an Organisation. Licentiate thesis, TRITA-NA-9902, Royal Institute of Technology.

#### Submitted for publication

Sturesson L & Groth K. Is the Patient Suited or Not? Clinicians' Selection Criteria for Video Visits in OutPatient Care. Submitted to JMIR in January 2018

Sturesson L & Groth K. Effects of the Digital Transformation: Disturbances and Limitations Using Video Visits in Outpatient Care. Submitted to JMIR in January 2018

# Appendix: External funding

Karolinska / Kl	
2016	$\sim$ 4,2 million Euro from EU in budget for LiveInCite. My role: contributing to the application together with Anders Nordström.
2016	$\sim\!40$ million SEK from ESF in budget for eHälsa-lyftet. My role: contributing to the application together with Anders Nordström.
2015	$\sim\!300$ tSEK from SLL Innovationfonden in budget for Telecytologi. My role: contributing to the application together with Urban Arnelo, GastroCentrum kirurgi.
2015	$\sim$ 4 million SEK from Nordic Innovation in budget for the project Nordic network of testbeds (the Karolinska part). My role: contributing to the application.
2014	$\sim$ 3 million SEK from Boston Scientific in budget for the ERCP upscaling project. My role: writing the application together with Urban Arnelo, GastroCentrum kirurgi.
2012	$\sim$ 8 million SEK from VINNOVA in budget for the project Karolinska Testbed (the Karolinska part). My role: responsible for coordinating the application.
2012	~26 million SEK from VINNOVA in budget for the project Innovationshubben för vård på distans (as the main applicant from Karolinska, with 10 million in funding from VINNOVA). My role: responsible for writing the application.
2011	$\sim$ 2,4 million SEK from Central Baltic Programme in budget for the project eMedic (the Karolinska part). My role: responsible for writing the application together with Sven Jonsson, Karolinska.
2009	$\sim$ 3 million SEK from VINNOVA n budget for the project CARENET. My role: responsible for writing the KI part of the application (Björn Pehrson from ICT School at KTH responsible for the application). KI received $\sim$ 600 thousand SEK in budget.
KTH	
2012	$\sim$ 1,8 million SEK from VINNOVA and SLL for CSC/KTHs participation in the project Innovationshubben för vård på distans, conducted in collaboration with Karolinska University Hospital. My role: responsible for writing the KTH part of the application.
2008	8,7 million SEK from VINNOVA for project Funk-IS. My role: responsible for writing the application, both for KTH and KI.

Appendix: Pe	dagogical skills		
Pedagogical cou			
2011	LH207V Research Supervision course		
2005	9L4002 Lärande och undervisning 1		
Supervising PhD 2018 -			
2018 -	Co-supervising PhD student Per Bergenzaun, XXX, not yet registered.		
	Co-supervising (to be) PhD student Hedvig Aminoff, Department of Systems Safety and Management, STH, KTH (main supervisor: Britt Östlund), not yet registered.		
2009 – aborted	Second supervisor PhD student Alexander Yngling, Department of HCI, CSC, KTH (main supervisor: Jan Gulliksen)		
2010 - 2014	Main supervisor PhD student Marcus Nilsson, Department of HCI, CSC, KTH		
2008 - 2013	Second supervisor PhD student Oscar Frykholm, Department of HCI, CSC, KTH (main supervisor: Ann Lantz)		
Supervising ST			
2013 – 2014	Co-supervising Christopher Jernling, together with Martin Sundelöf, Folke Hammarqvist and Anna Soop, during his ST project work: Telemedicine in trauma: Development of an evaluation tool.		
Supervising can	didate and master thesis projects (last ones)		
2015	Moa Gardell & Tonima Afroze, Algorithm Construction for Efficient Scheduling of Advanced Health Care at Home. Supervisor at Karolinska.		
2012	Mhiret Wube, Videoconference System and Pediatric Homecare: Care providers' Attitude in SABH, KI.		
2012	Elias Nohra, Telemedicine in the future's operating room, KTH.		
2011	Johanna Schyl & Frida Morberg, Behov kring ett användbart beläggnings- och bemanningssystem		
2010	David Keros, Visualisering och användbarhet i vården, KTH. 2013 Björn Helgeson & Anna Movin, On presence – media technology innovations in healthcare scenarios. Supervisor at Karolinska.		
2009	Mikael Albåge, Adapting an interactive whiteboard to Swedish classrooms		
2009	Fredrik Duong & Magnus Bodin, ICUpilot ur ett användbarhetsperspektiv: Ett beslutsstöd vid postoperativ övervakning?, Uppsala Universitet (project supervisor at Karolinska)		
2009	Pär Lannerö, Context Browser – a search interface making use of ontologies to facilitate freetext search (project and academic supervisor)		
2008	Christina Engström, Identification of clinically relevant similarities between patient cases – Possibilities of computerized support for clinical decision making in cases of diseases related to the liver, Karolinska Institutet		
2008	Jens Bäckbom, CSCW and the Enterprise: The development of an eCollaboration Strategy at AstraZeneca Pharmaceuticals		
2008	Ann-Louise Olausson, En studie av användarbeteendet på lektion.se – hur lärare delar kunskap genom lektion.se		
2007	Sofia Chiang, The significance of an intranet for a fast growing consulting firm		
Course responsi			
2014	Organising project task at Karolinska for all students in the KID and PEL course.		
2012 -2013	Responsible and main teacher in the course DH2466 Advanced individual course in HCI (Spring and Fall).		
2011	Responsible and main teacher in the course DH2632 HCI, Higher seminars.		
2011	Responsible for the lectures and tasks in the part about participatory design and computer supported cooperative work in the Interaction Design I course (DH2626). Cristian Bogdan has the main responsibility for the course (approx 8%).		
2002 2000			

2003 – 2008 Responsible and main teacher in the course Computer Supported Cooperative Work (CSCW), DH2416 and earlier 2D1416 (approx 15%). An advanced 9 credits course given to last year students with a background in HCI. Academic level is D. The course consisted of one theoretical part including seminars where research articles from the

field of CSCW was discussed, and a practical part where the students explored different groupware technologies in relation to the theoretical aspects of collaborative work. The theoretical part was examined through home examination and the practical part was examined through a project task. Development of the course was been included in the responsibility for the course. The course is now given as part of Interaction Design I DH2626, in which I take part.

1999

Responsible and main teacher in the course Human–Computer Interaction (HCI) (approx 20%). At the time this course was given it was the only human-computer interaction course offered by our department. It was a practical course on designing interactive interfaces in everyday technology, focusing on user studies and building simple prototypes/mock-ups.