CURRICULUM VITAE

ANDERS ÖSTMAN

Glansbaggestigen 12, 611 63 Nyköping, Sweden | +46-706-491975 | anders.ostman@novogit.se | Born: 1952-04-19

EDUCATION

KTH, Stockholm
PhD in Photogrammetry **1986**
Thesis: "Quality Control and Accuracy Estimation of Digital Elevation Models"

KTH, Stockholm
Technology Licentiate **1984**
Thesis:"Interactive Graphical Control of Photogrammetric Measurements for Digital Elevation Models"

KTH, Stockholm
MSc in Land Surveying **1978**
Thesis: "Stereofotogrammetrisk angiografi - Noggrannhet vid varierande baslängd och basriktning"

POSITIONS

Novogit AB, Stockholm
CEO **2013-**

Swedesurvey AB, Gävle
Technical manager, 75 % **2011-2013**

University of Gävle, Gävle
Professor in Geomatics, 25 % **2011-2013**

University of Gävle, Gävle
Professor in Geomatics, 100 % **2004-2011**

Luleå University of Technology
Professor in Geographic Information Technology **1996-2004**

Luleå University of Technology
Adjunct Professor in Geographic Information Technology (100 %) **1993-1995**

Intergraph Sverige AB, Sollentuna
Application Manager **1986-1992**

KTH, Stockholm
Research Assistant **1978-1986**

BOARD ASSIGNMENTS

Chairman of Novogit AB	2013 -
Chairman of the Working Group on Educational Services at EuroSDR	2007 – 2011
Association of Engineers, Gävle	2005 – 2011
Utvecklingsrådet för landskapsinformation (ULI)	2005 – 2008
Geographical Information Systems International Group (GISIG)	2004 –
Internationella Programkontoret, Tempus Reference Group	2004 – 2009
Innovativa GIS, Lycksele	2004 – 2006
GIS Institute, Gävle	2004 – 2005
European Spatial Data Research (EuroSDR)	2001 – 2013
Center for Applied Geoinformatics (CTgIT) in Luleå	1999 – 2003
Association of GI Laboratories in Europe (AGILE)	1997 – 2005
Spatial Modelling Center (SMC) in Kiruna	1996 – 2000
SIGIT AB	1995 – 2000
LINFO Norrbotten	1993 – 2001

Utvecklingsrådet för landskapsinformation (ULI)	1987 – 1995

INTERNATIONAL EVALUATIONS

Evaluator of project proposals	Universitets och Högskolerådet	2021 -
Accreditation of university programs in Portugal	A3ES	2016
Evaluator of project proposals	European Commission, Tempus program	2011 - 2013
Member, programme committee	3D GeoInfo Conference, Berlin	2010
Member, programme committee	AGILE	2010
Reviewer ISPRS Journal	Elsevier	2010
Member of evaluation committee at dissertation by Yuriy Reshetyuk	KTH, Stockholm	2010
Opponent at Fei Wangs PhD dissertation	University of German Armed Forces, Munich	2008
Opponent at Jesper Christensens dissertation	Danmarks Tekniska Högskola, Copenhagen	2007
Opponent at Antti Jakobsson's dissertation	Helsinki University of Technology	2006
Evaluator of proposals	NaboPlus program	2005 – 2006
Referee	ISPRS Journal	2005
Member of evaluation committee at dissertation by Erling Onstein	Norwegian Agricultural University, Ås	2004
Member of program committee	International Workshops on GIM	2004 – 2005
Member of evaluation committee at dissertation by Kåre Synnes	Luleå University of Technology	2003
Evaluator of project proposals	Italian Ministry for Education and Research	2002 – 2003
Evaluation of applicants for professorship	University of Gävle	2002
Evaluation of applicants for professorship	KTH, Stockholm	2002
Member of evaluation committee at dissertation by Patrik Ottosson	KTH, Stockholm	2001
Member of evaluation committee at dissertation by Dan Klang	KTH, Stockholm	1999
Member of evaluation committee at dissertation by Agnar Renolen	NTNU, Trondheim	1999
Member, programme committee	ScanGIS, Nordic conference	1999 – 2003
Chair, programme committee	AGILE annual conference	1998 – 2001
Member of evaluation committee at dissertation by Håvard Tveite	NTNU, Trondheim	1997
Member of programme committee	ICA international conference	1997
Member of programme committee	AGILE	1997 – 2008
Member of evaluation committee at dissertation by Katarina Johnsson	KTH, Stockholm	1994
Member of evaluation committee at dissertation by Holger Zielinski	KTH, Stockholm	1993
Member of evaluation committee at dissertation by Lars Schylberg	KTH, Stockholm	1993

SUPERVISED HIGHER ACADEMIC DEGREES

Mohamed El-Mekawy
Doctoral degree **2013**
Unified Building Model for 3D Cities – The integration of IFC and CityGML

Mohamed El-Mekawy
Licentiate degree **2010**
Integrating BIM and GIS for 3D City Modelling

Anders Dahlgren
Licentiate degree **2008**
Geographic Accessibility Analysis – Methods and Applications

Britt-Inger Rönnbäck
Doctoral degree **2004**
Are uncertain uncertainties useful? – Towards improved quality assessment of spatial information

Johan Esko
Licentiate degree **2002**
Synthetic microdata

Magnus Åström
Licentiate degree **2001**
Implementing artificial neural networks in microsimulation

Christian Lundberg
Licentiate degree **2000**

Geographic information in Internet related technologies

Britt-Inger Rönnbäck
Licentiate degree **1998**
Cellular automata as a tool for three-dimensional quality assessment

MAJOR PROJECTS

Alliance4XR	Work package leader and task leader	Budget: 1 370 597 €	2024 - ongoing
BIRGIT	Work package leader and task leader	Budget: 340 449 €	2022 - ongoing
GO-PEG	Work package leader and task leader	Budget: 1 200 574 €	2019 - 2023
SEED4NA	Work package leader and task leader	Budget: 851 485 €	2020 - ongoing
Team SDI	Data Harmonization Expert	Budget: 600 000 SEK	2020 - 2022
GeoBiz	Quality Assurance subcontractor	Budget: 989 055 €	2019 - 2022
EO4GEO	Work package leader and task leader	Budget: 3 846 045 €	2018 - 2022
ARinfuse	Work package leader and task leader	Budget: 292 965 €	2018 - 2020
BEST-SDI	Quality Assurance subcontractor	Budget: 978 167 €	2016 - 2019
Confidence in Georgia	Work Package Coordinator	Budget: 35 000 000 SEK	2015 - 2019
giCASES	Work package leader and task leader	Budget: 920 137 €	2016 - 2018
Impuls	Expert on data harmonisation	Budget: 38 893 000 SEK	2014 - 2018
Accreditation PT	International expert	Budget: 35 000 SEK	2016 – 2017
Test i byggprojekt	Test expert	Budget: 80 000 SEK	2016 – 2017
U-Test	Task leader	Budget: 200 000 SEK	2015 - 2016
INSPIRE support	Main consultant	Budget: 70 000 SEK	2016
LINKVIT	Representative of Novogit AB	Budget: 398 000 €	2013 - 2016
Azerbaijan BDCR	International Consultant	Budget: 52 000 USD	2015
Open geodata	Consultant	Budget: 50 000 SEK	2015
Linked geodata	Initiator, development leader	Budget: 956 000 SEK	2014 - 2015
Geoportal Realiserbarhetsbedömning	Technological expert	Budget: 135 000 SEK	2014
Technical Audit JIS	Project leader	Budget: 1 034 894 SEK	2012 - 2013
Capacity Building AREC	International project manager	Budget: 23 070 163 SEK	2011 – 2012
Ethiopian GIS standard	SDI expert	Budget: 800 000 SEK	2011 – 2012
Smart CIP	Scientific manager	Budget: 32 201 148 SEK	2011 – 2013
daGIS	Member of steering committee	Budget: 20 950 376 SEK	2010 – 2011
NESIS	Representative of HiG	Budget: 417 500 €	2008 – 2011
NatureSDIplus	Member of Steering Committee	Budget: 3 375 000 €	2008 – 2011
NYSTA	Representative of HiG	Budget: 55 758 000 SEK	2008 – 2010
VESTA-GIS	Member of Steering Committee	Budget: 523 000 €	2007 – 2010
Humboldt	Representative of HiG	Budget: 13 620 000 €	2006 – 2010
Planeringsportalen	Representative of HiG	Budget: 12 450 000 SEK	2006 – 2009
Bygga Villa	Representative of HiG	Budget: 11 500 000 SEK	2005 – 2008
GISAU	Member of Steering Committee	Budget: 355 000 €	2005 – 2007
GI-INDEED	Project manager	Budget: 395 000 €	2005 – 2007
BEGIN	Project manager	Budget: 499 000 €	2004 – 2007
CTgIT	Project manager	Budget: 10 000 000 SEK	2001 – 2004
RESE	Member of Steering Committee	Budget: 85 000 000 SEK	1997 – 2002

MAJOR COMMERCIAL DEVELOPMENTS AND INSTALLATIONS

AREC (Macedonia)	Project leader of capacity building of Agency of Real Estate and Cadastre	2011 – 2012
VBB VIAK	Development of photogrammetric production line	1991 – 1992
Swedish Geological Survey	Development and installation of GIS for marine geology	1990 – 1992
Liber kartor	Development and installation of cartographic production line	1990 – 1991
Intergraph (USA)	Contribute to development and testing of photogrammetric software	1989 – 1992
COGEMA (FR)	Contributing to development of photogrammetric production line	1988 – 1989
City of Helsinki	Contributing to development of photogrammetric production line	1988

LANGUAGES

Swedish – mother tongue
English – speaking fluently and reading/writing at advanced level

DETAILS ON ON-GOING PROJECTS

Project Name: Alliance4XR
Duration: February 2024 – January 2027 (estimated)
Major source of funding: EU Erasmus+
Budget: 1 370 597 €
Partnership: GeoImaging, Novogit, EuroXR, SchooVR, AUTh, Virtual, UMINHO, Sensorama, TEE/TKM, CMMI, YCD, CEEI, CEPROF
Project objectives: Multiple recent studies and surveys are underlining a gap in extended reality (VR/AR) theory and practice training modules within engineering schools and vocational training centres. This gap is causing a continuous shortage of relevant skills within a booming industry and thus, hindering faster and better development of commercial products and services. In this context, the Alliance4XR is set on cocreating and testing a well-tailored teaching and training methodology and material for empowering HEIs and VET to successfully address the challenge of XR digital skills in the engineering sector in a sustainable way. This methodology and material will enhance the capacity and knowledge of HEIs, VET in successfully addressing the technological and access to-market challenges that students and trainees face when entering the engineering sector. The methodology will be co-defined, deployed, tested, quality assessed and improved through local initiatives with the active involvement of HEIs, VETs, business and industry stakeholders. This digital skills gap for extended reality and engineering will be bridged by mapping the syllabi horizontally on a European level, identifying the needs for AR/VR teaching, devising the material and providing training and teaching packages with demos, sample data and customisable software.

Project Name: BIRGIT
Duration: February 2022 – January 2025 (estimated)
Major source of funding: EU Erasmus+
Budget: 340 449 €
Partnership: Ocellus AB, GISIG, Forma Azione, AIN, EfVET, University North, CIP
Project objectives: There is a clear need on the labour market for BIM/GIS integration competences. The project's main objective is to bridge the gap between supply and demand of these skills by increasing the quality of the existing VET offer by developing new courses. The execution of projects using both BIM and GIS data require knowledge about data, operations and processes in both disciplines. To fulfil this need, new learning materials aiming at developing the necessary skills to integrate BIM and GIS will be carefully planned and developed.
My tasks: Work package leader and task leader

Project Name: SEED4NA
Duration: January 2020 - January 2024
Major source of funding: EU Erasmus+
Budget: 851 485 €
Partnership: KU Leuven, Hochschule Bochum, University Twente, University of Zagreb, Alexandria University, Fayom University, Universite Ibnou Zohr A Agadir, Institut Agronomique Et Veterinaire Hassan Ii, Carthage University, Universite of Jendouba, Regional Centre Of Remote Sensing Of North Africa States, Oran University, University Of Science And Technology Houari Boumediene
Project objectives: The SEED4NA project aims to: 1) develop the required knowledge, skills, and competencies on SDI & EO within partner universities; 2) help introducing modern SDI & EO courses in engineering and agriculture/forestry studies; 3) implement supporting VET programmes; 4) help partner universities to support the development of SDI in their country and 5) promote a European approach to SDI & EO. SEED4NA will result in the establishment of capable, well-trained pools of experts within academic institutions which will introduce in their turn a modern approach in academic and VET education on SDI & EO in their respective countries, thereby becoming promotors of SDI development and EO use.
My tasks: Coordinator of work package on data sharing and NSDI

DETAILS ON PROJECTS PERFORMED

MAJOR PROJECTS

Project Name: GO-PEG
Duration: October 2019 – March 2023
Major source of funding: EU CEF (INEA)
Budget: 1 200 574 €
Partnership: KU Leuven, Geograma sl, Epsilon Italia srl, WeTransform GMBH, Bilbomatica sa
Project objectives: The main objective of the proposed Action is to provide access to harmonized thematic open dataset(s) and their corresponding metadata in the areas of environment, emergency, and disaster management. The starting point will be existing spatial (and related) datasets from INSPIRE (Directive 2007/2/EC) and from existing spatial data infrastructures in the Member States.
My tasks: Work package leader and task leader

Project Name: Team SDI
Duration: April 2020 - December 2022
Major source of funding: Lantmäteriet
Budget: 600 000 SEK
Partnership: Lantmäteriet
Project objectives: The project is included in Lantmäteriets support to national authorities related to the INSPIRE implementation in Sweden.
My tasks: Data Harmonization Expert

Project Name: GeoBiz
Duration: December 2019 - December 2022
Major source of funding: EU Erasmus+
Budget: 989 055 €
Partnership: University of Zagreb, KU Leuven, University of Split, Bochum University, University of Belgrade, University of Novi Sad, Gilab Ltd, Polytechnic University of Tirana, University of Tirana, Land & Co Ltd, University of Banja Luka, University of Sarajevo, Gauss Ltd, University of Pristina, University for Business and Technology, Technical University of Moldova, Tiraspol State University, University of Montenegro
Project objectives: The main aim of the GEOBIZ project is strengthening the capacity of academic institutions to better respond to the needs of the emerging geoinformatics industry in Albania, Bosnia and Herzegovina, Kosovo, Moldova and Montenegro. The project specific objectives are:
- (1) To improve and increase business-academia cooperation in geoinformatics at partner universities.
- (2) Establish business-academia interactive training program for teachers of geoinformatics courses following Bologna standards.
- (3) To create of technological preconditions (establishment of geoinformatics labs) for partner HEI's.
- (4) Develop and pilot number of improved university (practical part) and LLL courses
- (5) Set up technological platforms to share business-based practical examples in geoinformatics among partners and countries.
- (6) Embed a culture of quality to the project, its outputs and outcomes.
- (7) Facilitate adequate management tools for the correct implementation of the project.

My tasks: Quality Assurance subcontractor

Project Name: EO4GEO
Duration: January 2018 - June 2022
Major source of funding: EU Erasmus+
Budget: 3 876 045 €
Partnership: GISIG, KU Leuven, Paris-Lodron Universität Salzburg, EIT Climate KIC, Universitat Jaume I, University of Zagreb, University of Patras, Friedrich-Schiller University Jena, University of Twente, University of Basilicata, Institute of Geodesy and Cartography, Planetek, IGEA Ltd, Epsilon Italy, GIB, Spatial Services GMBH, EARSC, Romanian Space Agency, UNEP/GRID, NEREUS, VITO, CNR-IREA, Institute for Environmental Solutions, ISPRA, Alfa Liguria
Project objectives: EO4GEO aims to help bridging the skills gap between supply and demand of education and training in the space/geospatial sector by reinforcing the existing ecosystem and fostering the uptake and integration of space/geospatial data and services in end-user applications. EO4GEO will work in a multi- and interdisciplinary way and apply innovative solutions for its education and training actions including: case based and collaborative learning scenarios; learning-while-doing in a living lab environment; on-the-job training; the co-creation of knowledge, skills and competencies
My tasks: Work package leader and task leader

Project Name: ARinfuse
Duration: December 2018 - November 2020
Major source of funding: EU, Erasmus+
Budget: 292 965 €

Partnership: Cyprus University of Technology, German Institute for Artificial Intelligence, GeoImaging, GISIG, Sewage Board of Nicosia, Flanders Environment Agency
Project objectives: ARinfuse targets education and training at Higher Education Institutions (HEI) and Vocational Education and Training (VET) in the field of geoinformatics, with special reference to management and operations of utility underground infrastructures, such as water, sewage, electricity, gas, fiber optics, etc.
My tasks: Work package leader and task leader

Project Name: BEST-SDI
Duration: October 2016 – October 2019
Major source of funding: EU Erasmus+
Budget: 978 167 €
Partnership: University of Zagreb, KU Leuven, University of Split, SS Cyril and Methodius University of Skopje, Hochschule Bochum, Polytechnic University of Tirana, Agriculture University of Tirana, University of Banja Luka, University of Mostar, University of Sarajevo, University of Tuzla, University for Business and Technology, University of Montenegro, University of Belgrade, University of Novi Sad, University of Ukshin Hoti in Prizren.
Project objectives: The objectives of the BESTSDI project is to improve the quality of higher education in Geographical Science and Technology field, SDI and geodesy, enhance its relevance for the labour market and society and to improve the level of competences and skills in HEI's by developing new and innovative education programmes within the field of SDI.
My tasks: Quality Assurance Consultant

Project Name: Confidence in Georgia
Duration: 2015 - June 2019
Major source of funding: Sida (The Swedish International Development Cooperation Agency)
Budget: 35 000 000 SEK
Partnership: Lantmäteriet
Project objectives: The project is about building capacity on the area of land and property governance and administration through cooperation and support in order to transfer and share experience and good advice between an experienced Swedish organization and its Georgian sister organisation.
My tasks: Coordinator of work package on data sharing and NSDI

Project Name: giCASES
Duration: 2016 - December 2018
Major source of funding: EU Erasmus+
Budget: 920 137 €
Partnership: GISIG (IT), KU Leuven (BE), PLUS (AT), POLIMI (IT), UWH (HU), Nova IMS (PT), Epsilon-IT (IT), ISPRA (IT), Epsilon-GR (GR), Trilogis (IT), INI-Novation (DE), Digpro (SE), Geosparc (BE)
Project objectives: The main objective of this project is to boost the innovation in higher education and enterprises by jointly developing and implementing new teaching and learning methods. These methods are based on case based learning, where real-world cases are used to illustrate and deepen the knowledge about how different solutions are applied and used. In the most advanced form, as specified in the project, a collaborative platform is used in the development of the course material as well as in the teaching and learning activities. The project has a focus on geographic information which today is applied in different domains (environmental analysis, statistics, marketing, planning etc.).
My tasks: Work package leader on testing collaborative learning methods, task leader on Specification of methodology for co-creation of knowledge and task leader of Testing of pilot case studies

Project Name: IMPULS
Duration: 2014 - June 2018
Major source of funding: Sida (The Swedish International Development Cooperation Agency)
Budget: 38 893 000 SEK
Partnership: Lantmäteriet, SGA (HR)
Project objectives: This project will provide working examples of technical interoperability and dissemination of geodata in an electronic format via services between public authorities, nationally as well as regionally. Target countries are Serbia, Bosnia and Herzegovina, Albania, Macedonia, Kosovo and Montenegro.
My tasks: Expert on data harmonisation

Project Name: Accreditation PT
Duration: 2016 - 2017
Major source of funding: A3ES (Agencia de Avaliacao e Acreditacao do Ensino Superior)
Budget: 35 000 SEK
Partnership: Nova University Lisbon, University of Trás-os-Montes e Alto Douro
Project objectives: The objective of this project was to assess the MSc and PhD study programs at the University of Lisbon, University of Porto and University of Coimbra.
My tasks: International expert

Project Name: Test I byggprojekt
Duration: 2016 - 2017
Major source of funding: FORMAS
Budget: 80 000 SEK
Partnership: WSP, Skanska, NCC, Installatörsföretagen, Wimert Lundgren Advokatbyrå
Project objectives: The objective of this project was to specify a project plan for developing guidelines for tests in real construction projects.
My tasks: Test expert

Project Name: U-Test
Duration: 2015 - 2016
Major source of funding: EU Horizon 2020
Budget: 200 000 SEK
Partnership: Oslo Medtech (NO), Simula Research Laboratory (NO), Fraunhofer Gesellschaft (DE), Technische Universität Wien (AT), IKERLAN (ES), ULMA (ES), FPX (SE), Värmlands läns landsting (SE), Easy Global Market (FR)
Project objectives: Improve the dependability of Cyber-physical systems (CPS), via cost-effective model-based and search-based testing of CPSs under uncertainty, by defining an Uncertainty Taxonomy and holistic modelling and testing frameworks with considerable reliance on standards
My tasks: Leader of task 1.4 dealing with the preparation of an evaluation plan

Project Name: INSPIRE support
Duration: 2016
Major source of funding: Lantmäteriet
Budget: 70 000 SEK
Partnership: -
Project objectives: The objective of this project was to develop and perform a set of workshops on data harmonisation.
My tasks: Main consultant

Project Name: LINKVIT
Duration: 2013 - 2016
Major source of funding: EU Leonardo da Vinci program
Budget: 398 000 €
Partnership: GISIG (IT), KU Leuven (BE), ISPRA (IT), PLUS (AT), Epsilon Italy (IT), University of Venezia (IT)
Project objectives: The objective of this project was to harmonize and adapt training material to answer the needs and demands of the professionals of geo-information (GI) about the new EU legal framework defined principally by INSPIRE and by other Directives for regulation of GI and environment.
My tasks: Representative of Novogit AB

Project Name: Azerbaijan BDCR
Duration: 2016
Major source of funding: World Bank
Budget: 52 000 USF
Partnership: None
Project objectives: The objective of this project was to provide technical assistance to the State Committee for Property Issues/Real Estate Registration Project in drafting the Borrower's Completion Report (BCR). The draft BCR covered aspects like the assessment of the operation's objective, design, implementation, and operational experience; assessment of the outcome of the operation against the agreed objectives; evaluation of the borrower's own performance during the preparation and implementation of the operation; evaluation of the performance of the Bank; and description of the proposed arrangements for future operation of the project.
My tasks: International consultant

Project Name: Linked geodata
Duration: 2014 - 2015
Major source of funding: VINNOVA
Budget: 956 000 SEK
Partnership: Swedish Mapping and Cadastral Agency, Swedish Geological, Swedish Environmental Protection Agency, Swedish Contingency Agency, Future Position X and Linköping University
Project objectives: The objective of this project was to analyze the feasibility of implementing linked geodata and RDF standards in Swedish governmental agencies.
My tasks: Initiator, development leader

Project Name: Geoportal realiserbarhetsbedömning

Duration: 2014
Major source of funding: FMV (Försvarets Materielverk)
Budget: 135 000 SEK
Partnership: Metria, FOI
Project objectives: The objective of this project was to analyze the feasibility of using geoportals for dissemination of geospatial data within the Swedish defense.
My tasks: Technical expert

Project Name: Technical Quality Audit of the Joint Information System
Duration: 2012 - 2013
Major source of funding: World Bank
Budget: 1 034 894 SEK (122 805 €)
Partnership: Qamcom Research and Technology AB
Project objectives: The objective of this project was to perform a Technical Quality Audit of the Joint Information System (JIS) in Croatia. The JIS is an ambitious undertaking which includes integrated business processes and a single database and application for keeping and maintaining the land registry and cadaster data. The JIS is a centralized system and database to which all courts and SGA offices will be connected at the national level. The Audit identified to what extent the JIS was ready for unconditional (full) operational acceptance. If not ready, then the Audit should identify the issues that have prevented full acceptance of the JIS and the parties responsible. In addition, estimates of the costs and times likely to be required for final completion of the JIS were requested.
My tasks: International team leader, analysis of contract execution, analysis of problem reports, review of documents, requirement analysis and performance testing.

Project Name: Capacity Building for the Implementation of the Strategic Plan for AREC (Macedonia)
Duration: 2011 - 2012
Major source of funding: Sida
Budget: 23 070 163 SEK (2 454 273 €)
Partnership: AREC, Macedonia
Project objectives: The main focus of this capacity building project is on technical and human resources development resulting in confident rendering an effective service delivery to fellow citizens. AREC's vision of being appreciated as "*the* very efficient agency handling land related data in a secured way" is to be fulfilled. In the *Strategic Plan of the Real Estate Cadastre Agency 2009-2013***,** defined in August 2008, the vision is described as "*an effective, fast, modern, secure and reliable organization for providing services to its users and as an organization that is a leader for all geodetic and cadastral operations and a guardian of the legal security of the geospatial data and the real estate rights data in the Republic of Macedonia"*
Furthermore the strategic objectives are defined to be:
Strategic objective 1: Providing an efficient, reliable and secure system for the Guaranteed Ownership Right over Real Estate in Macedonia.
Strategic objective 2: Providing pre-conditions for an efficient real estate market in the Republic of Macedonia.
Strategic objective 3: Enabling pre-conditions for the creation of an adequate and high quality Land Policy in the Republic of Macedonia.
Strategic objective 4: Efficient serving of the needs and demands from all categories of users of public services of the Agency."
My tasks: International team leader and project manager. Risk management, quality assurance and recruitment of international experts.

Project Name: Development of National GIS standards and Guidelines in Ethiopia
Duration: 2011 - 2012
Major source of funding: Ministry of Communication and Information Technology in Ethiopia
Budget: 800 000 SEK (80 000 €)
Partnership: Prime Consultants Plc, Addis Ababa
Project objectives: The project focuses on creating a reliable and consistent geo-information standard and guideline on,

- Establishing national GIS business standards/architecture
- Geospatial data collection, storage, production, presentation, sharing, distribution and transfer systems and mechanisms.
- Databases, in compliance with the GIS Spatial Data Standards to facilitate data sharing, integration, and compatibility within the GIS System.
- Metadata, in compliance with the above standards to facilitate data sharing, integration and compatibility among GIS System users so as to ensure all kinds of GIS systems, data, applications and products seamlessly integrate to one another regardless of their technology, vendors and country of origin.

My tasks: Selection of appropriate international standards, specification of national adaptation strategies, preparation of guidelines, training.

Project Name: Smart City Innovation Playground
Duration: 2011 - 2013
Major source of funding: EU structural funds
Budget: 32 201 148 SEK (3 504 000 €)
Partnership: Regional Swedish partners

Project objectives: Developing technologies and services for a smart, secure, human and sustainable city.
My tasks: Scientific leader of the GeoTest activity. The objective of this task is to develop and implement methods for testing and monitoring the development of the Swedish National Spatial Data Infrastructure (SDI) and its compliance with the INSPIRE directive. Recent studies deals with a generic solution for data quality assessment and real estate registers published as linked data.

Project Name: daGIS
Duration: 2010 - 2011
Major source of funding: EU Structural funds
Budget: 20 950 376 SEK (2 280 000 €)
Partnership: Regional Swedish partners
Project objectives: Establish closer links between the University of Gävle and the industry in the field of GIS. A second objective is to spread the usage of GIS within the University.
My tasks: Member of the steering committee. Design a new curriculum for master studies in geomatics, taking requirements of the industry into account. The main focus in the new curriculum is on SDI development.

Project Name: NESIS (A Network to enhance a European Environmental Shared and Interoperable Information System*)*
Duration: 2008 - 2011
Major source of funding: European Commission – DG Information Society and Media
Budget: 417 500 €
Partnership: 16 partners (15 EU + 1 from Norway)
Project objectives: Develop ICT guidelines for creating a shared environmental information system (SEIS) in Europe.
My tasks: Contribution to the ICT Roadmap

Project Name: NatureSDIplus
Duration: 2008 - 2011
Major source of funding: EU eContentPlus program
Budget: 3 375 000 €
Partnership: 30 EU partners
Project objectives: To improve harmonisation of national datasets and make them more accessible and exploitable. Therefore, it contributes to the INSPIRE implementation with specific reference to a cluster of data themes on nature conservation.
My tasks: Member of steering board. National Contact Point for Sweden. Implementing view, download and discovery services according to the INSPIRE network specifications, INSPIRE data specifications for Protected Sites and project data specifications for biogeographical regions, habitats and biotopes and species distribution. Task manager for training.

Project Name: NYSTA
Duration: 2008 - 2010
Major source of funding: EU Structural funds
Budget: 55 758 000 SEK (6 067 000 €)
Partnership: Regional Swedish partners
Project objectives: Create an innovative environment in the GI sector, in order to support innovation, internationalization and growth in the region.
My tasks: Representative of HIG. Scientific leader of the GeoTest activity. The objective of this task is to develop and implement methods for testing and monitoring the development of the Swedish National Spatial Data Infrastructure (SDI) and its compliance with the INSPIRE directive.

Project Name: VESTA-GIS
Duration: 2007 - 2010
Major source of funding: EU Leonardo da Vinci program
Budget: 523 000 €
Partnership: 77 partners across Europe (72 from EU + one each from Croatia, Macedonia, Turkey, Ukraine and Uzbekistan)
Project objectives: To share experience and foster innovation in vocational training by bringing together experts, organisations and users of Geographical Information (GI) and its application domains and to improve the anticipated benefit of vocational training initiatives.
My tasks: Member of Steering Committee. Work package leader of crating the training framework, including an online course catalogue.

Project Name: Humboldt
Duration: 2006 - 2011
Major source of funding: EU FP6 – integrated project
Budget: 13 620 000 €
Partnership: 27 partners across EU

Project objectives: To enable organizations to document, publish and harmonize their geospatial data. The software tools and processes created will demonstrate the feasibility and advantages of an Infrastructure for Spatial Information in Europe as planned by the INSPIRE initiative, meeting the goals of Global Monitoring for Environment and Security (GMES).
My tasks: Member of steering committee. Representative of HiG. Task manager for training. Task manager for cost and benefit analysis and business process analysis.

Project Name: Planeringsportalen
Duration: 2006-2009
Major source of funding: VINNOVA (Swedish research council)
Budget: 12 450 000 SEK (1 355 000 €)
Partnership: Only Swedish partners
Project objectives: To create a portal with e-Government applications, supporting urban and physical planning.
My tasks: Representative of HiG. Initial studies on tools for schema transformation as applied to INSPIRE. Further studies on combined indoor- and outdoor GI modelling.

Project Name: Bygga Villa
Duration: 2005 - 2008
Major source of funding: VINNOVA (Swedish research council)
Budget: 11 500 000 SEK (1 251 000 €)
Partnership: Only Swedish partners
Project objectives: To create a portal supporting citizens in their housing (searching, building, living etc)
My tasks: Representative of HiG. Initial studies on e-Government application for provisioning of detail plans. Initial studies on combined indoor- and outdoor GI modelling.

Project Name: GISAU
Duration: 2005 - 2007
Major source of funding: EU Tempus program
Budget: 355 000 €
Partnership: Ukraine, Sweden and Scotland
Project objectives: To develop and implement a new curriculum in GIS at two Ukrainian universities
My tasks: Member of steering committee. Training of Ukrainian teachers. Quality assurance of Ukrainian curricula and courses.

Project Name: GI-INDEED
Duration: 2005 - 2007
Major source of funding: EU Leonardo da Vinci program
Budget: 395 000 €
Partnership: 7 EU partners
Project objectives: To develop courses for vocational training related to SDI and INSPIRE
My tasks: Project manager. Developer of 4 courses.

Project Name: BEGIN
Duration: 2004 - 2007
Major source of funding: EU Tempus program
Budget: 499 000 €
Partnership: Sweden, Germany and Russia (7 partners)
Project objectives: To develop and implement new curricula related to SDI and INSPIRE at3 Russian universities
My tasks: Project manager, developer of 3 courses.

Project Name: CTgIT
Duration: 2001 - 2004
Major source of funding: EU structural funds
Budget: 10 000 000 SEK (1 088 000 €)
Partnership: Regional Swedish partners
Project objectives: To develop and implement new GI technologies in local industry
My tasks: Project manager.

Project Name: RESE (Remote Sensing for the Environment)
Duration: 1997 - 2002
Major source of funding: MISTRA (Swedish Research Council)
Budget: 85 000 000 SEK (9 249 000 €)

Partnership: 12 Swedish partners
Project objectives: To develop new methods for environmental monitoring based on remote sensing
My tasks: Member of Steering Committee. Developing new methods for quality assurance of geographic information

MAJOR COMMERCIAL DEVELOPMENTS AND INSTALLATIONS

Project Name: Development of photogrammetric production line
Duration: 1991 – 1992
Major source of funding: VBB VIAK
Project objectives: To develop a database for photogrammetric data acquisition, including user specific methods for data entry.
My tasks: Project manager, database designer, implementation of database and procedures, training

Project Name: Development and installation of GIS for marine geology
Duration: 1990 – 1992
Major source of funding: Swedish Geological Survey
Project objectives: To develop a system for the acquisition, processing, storage and visualisation of marine geologic information.
My tasks: Project manager, database designer, implementation of database and procedures for data management and data quality assurance and control, cartographic design, training

Project Name: Development and installation of cartographic production line
Duration: 1990 – 1991
Major source of funding: Liber kartor
Project objectives: To develop a system for the acquisition, processing, storage and visualisation of cartographic information.
My tasks: Project manager, database designer, implementation of database and procedures for data management and data quality assurance and control, cartographic design, training

Project Name: Contribute to development and testing of photogrammetric software
Duration: 1989 – 1992
Major source of funding: Intergraph (USA)
Project objectives: To contribute to the testing and development of new version of photogrammetric software.
My tasks: Software testing, debugging

Project Name: Contributing to development of photogrammetric production line
Duration: 1988 – 1989
Major source of funding: COGEMA (FR)
Project objectives: To develop methods for photogrammetric data acquisition.
My tasks: Project manager, implementation of procedures, training

Project Name: Contributing to development of photogrammetric production line
Duration: 1988
Major source of funding: City of Helsinki
Project objectives: To develop methods for photogrammetric data acquisition.
My tasks: Project manager, implementation of procedures, training

PUBLICATIONS

REFEREED JOURNAL PAPERS

El-Mekawy M, Östman A, 2012. **FEASIBILITY OF BUILDING INFORMATION MODELS FOR 3D CADASTRE IN UNIFIED CITY MODELS**. International Journal of E-Planning Research (IJEPR), Vol 1(4), pp 35-58. http://www.igi-global.com/article/feasibility-building-information-models-cadastre/74822

El-Mekawy M, Östman A, Hijazi I, 2012. **A UNIFIED BUILDING MODEL FOR 3D URBAN GIS**. International Journal of Geo-Information, Vol 1(2), pp 120-145. doi:10.3390/ijgi1020120. http://www.mdpi.com/2220-9964/1/2/120

He X, Persson H, Östman A, 2012. **GEOPORTAL USABILITY EVALUATION**. International Journal of Spatial Data Infrastructures Research, Vol 7 (2012), pp 88-106. http://ijsdir.jrc.ec.europa.eu/index.php/ijsdir/article/view/248/323

El-Mekawy M, Östman A, Hijazi I, 2011. **AN EVALUATION OF IFC – CITYGML UNIDIRECTIONAL CONVERSION.** International Journal of Advanced Computer Science and Applications, Vol 3, No 5, 2011, pp 157 – 169. http://thesai.org/Downloads/Volume3No5/Paper_25-An_Evaluation_of_IFC_CityGML_Unidirectional_Conversion.pdf

Hedefalk F, Östman A, 2011. **MAKING SWEDISH ENVIRONMENTAL GEODATA INSPIRE COMPLIANT: A HARMONIZATION CASE STUDY**. Mapping and Image Science, Vol 2011:3, pp 30-37, http://www.kartografiska.se/images/stories/kart_o_bildteknik/KB_3_vet_2011_web.pdf

Abugessaisa I, Östman A, 2011. **TESTING-SDI: E-GOVERNMENT PROSPECTIVE, REQUIREMENTS, AND CHALLENGES**. International Journal of Public Information Systems, Vol. 2011:1, pp. 11-47. http://www.ijpis.net/issues/no1_2011/IJPIS_no1_2011_p2.pdf

Rönnbäck B-I, Nordberg M-L, Olsson A, Östman A, 2003. **EVALUATION OF ENVIRONMENTAL MONITORING STRATEGIES**. Ambio, Vol 32 No 8, pp 495-501. http://ambio.allenpress.com/archive/0044-7447/32/8/pdf/i0044-7447-32-8-495.pdf

Angelstam P, Mikusinski G, Rönnbäck B-I, Östman A, Lazdinis M, Roberge J-M, Arnberg W, Olsson J, 2003. **TWO-DIMENSIONAL GAP ANALYSIS: A TOOL FOR EFFICIENT CONSERVATION PLANNING AND BIODIVERSITY POLICY IMPLEMENTATION**. Ambio, Vol 32 No 8, pp 527-534. http://ambio.allenpress.com/archive/0044-7447/32/8/pdf/i0044-7447-32-8-527.pdf

Östman A, 1987. **ACCURACY ESTIMATION OF DIGITAL ELEVATION DATA BANKS**. Photogrammetric Engineering and Remote Sensing, Vol 53 No 4, pp 425-430. http://www.asprs.org/publications/pers/scans/1987journal/apr/1987_apr_425-430.pdf

Östman A, 1987. **QUALITY CONTROL OF PHOTOGRAMMETRICALLY SAMPLED DIGITAL ELEVATION MODELS**. Photogrammeric Record, Vol 12(69), pp 333-341.

Saraste H, Östman A, 1986. **STEREOPHOTOGRAMMETRY IN THE EVALUATION OF THE TREATMENT OF SCOLIOSIS**. International Orthopaedics (SICOT), Vol 10, pp 63-67.

Saraste H, Östman A, 1986. **THE EFFECT OF A DEVICE FOR TRANSVERSE TRACTION ON VERTEBRAL ROTATION IN SURGERY FOR SCOLIOSIS AS STUDIED BY X-RAY STEREOPHOTOGRAMMETRY**. International Orthopaedics (SICOT), Vol 10, pp 131-133.

Östman A, 1986. **A GRAPHICAL EDITOR FOR DIGITAL ELEVATION MODELS**. Geo-Processing, Vol 3, pp 143-154.

CHAPTERS IN BOOKS

El-Mekawy M, Östman A, 2015. **A UNIFIED BUILDING MODEL FOR REAL 3-D CADASTRAL SYSTEMS**. In C Nunes-Silva (Ed) Emerging Issues, Challenges, and Opportunities in Urban E-Planning. IGI Global. DOI: 10.4018/978-1-4666-8150-7

El-Mekawy M, Östman A, 2012. **ONTOLOGY ENGINEERING METHOD FOR INTEGRATING BUILDING MODELS: THE CASE OF IFC AND CITYGML**. In Podobnikar T & Ceh M (Eds), Universal Ontology of Geographic Space: Semantic Enrichment for Spatial Data. IGI Global. DOI: 10.4018/978-1-4666-0327-1, ISBN13: 9781466603271

REFEREED CONFERENCE PAPERS

Östman A, Alemayehu M, Teshome E, 2013. **HETEROGENEOUS USER REQUIREMENTS ON GI STANDARDS – IMPLEMENTATION STRATEGIES IN AN ETHIOPIAN PERSPECTIVE.** Paper at the 26th International Cartographic Conference, August 25-30 2013, Dresden, Germany. http://www.icc2013.org/_contxt/_medien/_upload/_proceeding/97_proceeding.pdf

Fritsch D, Mooney K, Östman A, 2012. **EDUSERV - THE EDUCATION SERVICE OF EUROSDR: SHARING EXPERIENCE FOR CAPACITY BUILDING.** International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Volume XXXIX-B6, 2012, XXII ISPRS Congress, 25 August – 01 September 2012, Melbourne, Australia. http://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XXXIX-B6/87/2012/isprsarchives-XXXIX-B6-87-2012.pdf

El-Mekawy M, Östman A, Shahzad K, 2011. **TOWARDS INTEROPERATING CITYGML AND IFC BUILDING MODELS: A UNIFIED MODEL-BASED APPROACH**. In Kölbe T, König G & Nagel C (Eds), 5th 3D GeoInfo Conference, Springer Lecture Notes in Geoinformation and Cartography (LNG&C), Springer Verlag, Heidelberg. ISSN 1863-2246, Jan 2011.

Östman A, Bjerkman J, 2010. **REGIONAL GI CLUSTER IN SUPPORT TO THE SDI DEVELOPMENT**. International Conference SDI 2010 – Skopje, September 15-17 2010. http://sdi2010.evkartenn.com/pdf/Ostman_Bjerkman.pdf

El-Mekawy M, Östman A, 2010. **SEMANTIC MAPPING: AN ONTOLOGY ENGINEERING METHOD FOR INTEGRATING BUILDING MODELS IN IFC AND CITYGML**. 3rd ISDE Digital Earth Summit 12-14 June, 2010, Nessebar, Bulgaria. http://www.cartography-gis.com/pdf/32_El-Mekawy_Sweden_paper.pdf

Hedefalk F, Östman A, 2010. **ROBUSTNESS OF SPATIAL DATABASES AGAINST INTENTIONAL ATTACKS AND RANDOM ERRORS**. 13th AGILE International Conference on Geographic Information Science 2010, Guimarães, Portugal. http://plone.itc.nl/agile_old/Conference/2010-guimaraes/ShortPapers_PDF/111_DOC.pdf

Östman A, 2010. **NETWORK FOR TESTING GI SERVICES**. Invited paper to the GIS Ostrava 2010 Symposium, January 24-27 2010.

Östman A, Abugessaisa I, Tanzilli S, He X, El-Mekawy M, 2009. **GEOTEST: A TESTING ENVIRONMENT FOR SWEDISH GEODATA**. Paper presented at the GSDI 11 World Conference, Rotterdam, June 15-19, 2009. http://www.gsdi.org/gsdi11/papers/pdf/234.pdf

Liljergren P, Östman A, Puigvert F, 2009. **COMPLYING WITH THE INSPIRE IMPLEMENTATION RULES – A CASE STUDY**. Urban and Regional Data Management: UDMS Annual 2009. ISBN: 978-0-415-55642-2, Taylor and Francis, London

El-Mekawy M, Östman A, Shahzad K, 2008. **GEOSPATIAL INTEROPERABILITY FOR IFC AND CITYGML: CHALLENGES OF EXISTING BUILDING INFORMATION DATABASES**. Proceedings of Innovations 08th, IEEE Conference, Dubai, December 16-18.

El-Mekawy M, Östman A, Shahzad K, 2008. **GEOSPATIAL INTEGRATION: PREPARING BUILDING INFORMATION DATABASES FOR INTEGRATION WITH CITYGML FOR DECISION SUPPORT**. Proceedings of Innovations 08th, IEEE Conference, Dubai, December 16-18.

Zdravkovic J, Östman A, 2008. **AN AGILE METHOD FOR AUTOMATED PROVISIONING OF THE GEOGRAPHICAL INFORMATION IN PUBLIC SERVICES**. Urban and Regional Data Management: UDMS Annual 2008. ISBN: 978-0-415-44059-2, Taylor and Francis, London.

Östman A, Saio G, Granelli V, Liljergren P, Marchese A, 2007. **GI-INDEED, AN E-LEARNING INITIATIVE IN GEO-INFORMATION FOR ENVIRONMENTAL MANAGEMENT COMPLIANT WITH THE INSPIRE DIRECTIVE**. In: Proceedings of the 13th EC-GIS Conference, July 4-6, 2007, Porto, Portugal.

Liljergren P, Östman A, 2007. **SENSOR WEB ENABLEMENT IN AGRICULTURE PRODUCTION.** In: Proceedings of the 2nd GISAU conference in Kherson, May 21-22, 2007, Kherson State Agricultural University Press.

Östman A, Palmér O, Stridsman F, 2007. **TRAINING AND EDUCATION FOR SPATIAL DATA INFRASTRUCTURES**. In: Proceedings of the IPY 2007 GeoNorth Conference in Yellowknife, Canada, August 21-24 2007.

Östman A, 2006. **GI-INDEED – PROFESSIONAL TRAINING IN GIS BASED ON DISTANCE LEARNING**. Paper presented at the first GISAU conference in Kherson, Ukraine, pp 10-13.

Olofsson M, Östman A, 2006. **OPTIMIZING DYNAMIC NETWORK CONFIGRATIONS**. Paper presented at the 9th AGILE Conference on Geographic Information Science, Budapest, Hungary, pp 247-254.

Östman A, 2000. **AN ALGEBRA FOR SPATIAL DATA QUALITY ASSURANCE ROUTINES**. 4th International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, Amsterdam July 12-14, 2000.

OTHER CONFERENCE PAPERS

Östman A, Ralev G, 2012. Self financing mapping and cadastral agencies, data services and INSPIRE – Is there a conflict? Paper presented at the 4th NSDI INSPIRE Day, September 25 – 29, Zagreb, Croatia. http://nipp.kartografija.hr/index.php?id=301&items=56

Östman A, Zakariasson J, 2011. Quality Management of Spatial Data Infrastructure – a Necessity for Investments. Paper presented at the II Annual Conference of the CIS and Baltic Countries, Moscow, September 28 – 29, 2011.

Östman A, Zakariasson J, 2011. Efficient Metadata Management for Granting SDI services. Paper presented at the II Annual Conference of the CIS and Baltic Countries, Moscow, September 28 – 29, 2011.

Östman A, Zakariasson J, 2011. Efficient Metadata Management – Science, Fiction or Reality? Paper presented at the International NSDI Conference, Skopje Macedonia, September 19-20, 2011

Östman A, Zakariasson J, 2011. Efficient Procedures for Quality Assurance of Data and Services. Paper presented at the 3rd Croatian NSDI and INSPIRE Day, Split September 14-16, 2011. http://www.kartografija.hr/index.php?id=265&items=2

He X, Persson H, Östman A, 2011. Geoportal Usability Evaluation. Paper presented at the INSPIRE Conference 2011, Edinburgh June 27 – July 1 2011. http://inspire.jrc.ec.europa.eu/events/conferences/inspire_2011/abstracts/61.doc

Portele C, Östman A, Koutroumpas M, He X, Kovanen J, Schneider M, Skopeliti A, 2011. Testing – an essential aspect of establishing an SDI. Paper presented at the INSPIRE Conference 2011, Edinburgh June 27 – July 1 2011.
http://inspire.jrc.ec.europa.eu/events/conferences/inspire_2011/abstracts/125.docx

Östman A, 2010. Tests for Assuring INSPIRE Compliance. Paper presented at the 2nd Croatian NSDI and INSPIRE Day, Opatija, Nov 27-29, 2010

Saio G, Marchese A, Molina R, Östman A, 2010. **A TRAINING FRAMEWORK TO SUPPORT THE INSPIRE IMPLEMENTATION PROCESS.** Presentation at the INSPIRE 2010 Conference in Krakow, Poland, 2010.
http://inspire.jrc.ec.europa.eu/events/conferences/inspire_2010/presentations/163_pdf_presentation.pdf

Molina R, Saio G, Östman A, 2010. **DATA HARMONISATION IN THE HUMBOLDT SCENARIOS AND THE HUMBOLDT TRAINING FRAMEWORK**. Presentation at the INSPIRE 2010 Conference in Krakow, Poland, 2010.
http://inspire.jrc.ec.europa.eu/events/conferences/inspire_2010/get_details.cfm?urlx=inspire.jrc.ec.europa.eu/events/conferences/inspire_2010/abstracts/159.html

Östman A, 2010. **VERKTYG FÖR DATAHARMONISERING BASERADE PÅ ÖPPEN KÄLLKOD**. Föredrag vid Kartdagarna 2010 i Jönköping, 14-16 April.
http://www.kartografiska.se/images/stories/kartdagarna/presentationer2010/62_Humboldt_Kartdagarna_2010.pdf

Östman A, 2010. **EXAMPLES OF TRAINING MODULES IN GÄVLE, BERLIN AND DUBLIN**. Presented paper at the GIS Ostrava 2010 Symposium, January 24-27 2010.

Östman A, 2010. **INTRODUCTION OF THE VESTA GIS PROJECT**. Presented paper at the GIS Ostrava 2010 Symposium, January 24-27 2010.

Jakobsson A, Östman A, Henriksson R, 2009. **IS THERE QUALITY IN SDIS? HOW WILL TECHNOLOGY HELP?** Workshop at GSDI 11 World Conerence, Rotterdam June 15-19 2009. http://www.gsdi.org/gsdi11/workshops.html

Carbonaro M, Östman A, Roccataglia E, 2009. **VESTA-GIS: SURVEY AND ON-LINE TOOLS TO SUPPORT GI&GIS VOCATIONAL EDUCATION AND TRAINING OFFER**. Proceedings of the GSDI 11 World Conference, Rotterdam 15-19 June 2009. http://www.gsdi.org/gsdi11/posters.html

Östman A, Sandgren U, Wallberg M, Jansson B, Rystedt B, 2008. **RESEARCH AND DEVELOPMENT SUPPORTING THE IMPLEMENTATION OF A NATIONAL SDI**. INSPIRE Conference 2008, Ljubljana, June 23 2008. http://www.ec-gis.org/Workshops/inspire_2008/presentations.cfm

Saio G, Östman A, Roccataglia E, Marchese A, Carbonara M, Bermejo P, 2008. **EUROPEAN INITIATIVES OF THEMATIC GI E-LEARNING: THE GI-INDEED EXPERIENCE AND THE VESTA-GIS PERSPECTIVE**. Proceedings from EUGISES conference, Cirencester, United Kingdom Sept 11-14, 2008.
http://www.eugises.eu/proceedings2008/abstracts.pdf

Östman A, 2008. **VESTA-GIS TRAINING FRAMEWORK**. Proceedings from the VESTA-GIS/NatureSDI-plus workshop, Genoa 2008-11-06.
http://www.nature-sdi.eu/kick-off/VESTA-GIS%20Training%20Framework.ppt

Östman A, 2008. **VESTA-GIS MODULE ON WEB SERVICES**. Proceedings from the VESTA-GIS/NatureSDI-plus workshop, Genoa 2008-11-06.
http://www.nature-sdi.eu/kick-off/Web%20Service%20Module.ppt

Östman A, 2008. **THE ARCHITECTURE OF THE VESTA-GIS TRAINING FRAMEWORK**. Proceedings from the VESTA-GIS workshop, Salzburg, 2008-07-01.
http://www.gisig.it/vesta-gis/index.php?option=com_content&task=view&id=52&Itemid=66

Östman A, 2007. **THE OPPORTUNITIES OF THE VESTA-GIS TECHNOLOGICAL PLATFORM**. Proceedings from the ECO-Imagine workshop, Genoa Nov 21-23 2007. http://www.gisig.it/eco-imagine/next_event/draft_programme_0611_web.pdf

Lundberg C, Segerlund M, Salen F, Stridsman F, Östman A, Fahller M, Rönnbäck B.I, Wiggefors A, Sapage H, 2000. **NEW STUDENT CATEGORIES – PROBLEMS AND POSSIBLE SOLUTIONS.** Paper presented at the 2nd European GIS Education Seminar EUGISES 2000 in Budapest, September 7-10, 2000.

Östman A, Lundberg C, Salén F, 1998. **GIS EDUCATION IN LULEÅ - EXPERIENCES AND FUTURE**. Paper presented at EUGISES'98, Soesterberg, The Netherlands, September 3-6, 1998

Östman A, 1997. **THE SPECIFICATION AND EVALUATION OF SPATIAL DATA QUALITY**. Proceedings from the 18th ICA/ACI International Conference, Stockholm Sweden, 23-27 June 1997, Volume 2, pp 836-847.

Östman A, 1996. **QUALITY SYSTEMS FOR SPATIAL DATA**. Second Joint European Conference & Exhibition on Geographical Information, Barcelona, Spain, 1996, pp 268-276.

Östman A, 1995. **EXPERIENCES FROM THE IMPLEMENTATION OF DATA QUALITY SPECIFICATIONS**. Paper presented at the ESF GISDATA Specialist Meeting in Lisbon, 5-9 july, 1995.

Östman A, 1995. **A REGIONAL STRATEGY FOR GIS EDUCATION**. Paper presented at the First Joint European Conference & Exhibition on Geographical Information, the Haague, Holland, 1995.

Östman A, 1993. **QUALITY CONTROL AND SPECIFICATION OF DIGITAL ELEVATION MODELS**. Maanmittaustieteiden Seuran julkaisu n:o 30, pp 48-55, Helsinki Univeristy of Technology, 1993.

Östman A, 1986. **TERRAIN ANALYSIS BY KARHUNEN-LOEVE EXPANSION**. International Archives of Photogrammetry and Remote Sensing, Vol 26 - 3/2, pp 682-690, Rovaniemi.

Östman A, 1986. **THE MAINTENANCE OF LARGE SCALE MAPS BY DIGITAL MONOPLOTTING**. International Archives of Photogrammetry and Remote Sensing, Vol 26 Part 4, pp 519-528, Edinburgh.

Östman A, 1986. **A PC-BASED EDITOR FOR DIGITAL ELEVATION MODELS**. Proceedings from AutoCarto London, 14-19 september 1986, pp 465-474.

Östman A, 1985. **THE MAINTENANCE OF LOCAL GEOGRAPHICAL INFORMATION SYSTEMS IN THE SWEDISH MUNICIPALITIES**. Paper presented at the First Scandinavian Research Conference on Geographical Information Systems. Linköping, Sweden June 13-14, 1985.

Torlegård K, Lindgren R, Östman A, 1984. **A COMPARATIVE TEST OF PHOTOGRAMMETRICALLY SAMPLED DIGITAL ELEVATION MODELS**. International Archives of Photogrammetry and Remote Sensing, Vol XXV, Part A3b, pp 1065-1082, Rio de Janeiro.

Östman A, 1984. **SEQUENTIAL DATA PROCESSING FOR PHOTOGRAMMETRIC ACQUISITION OF DIGITAL ELEVATION MODELS**. International Archives of Photogrammetry and Remote Sensing, Vol XXV, Part A4, pp 334-344, Rio de Janeiro.

Östman A, 1983. **AN OUTLINE OF THE ANALYSIS OF THE ISP DEM TEST**. International Colloquim on Mathematical Aspects of Digital Elevation Models. Departmenty of photogrammetry, KTH, Stockholm.

Östman A, 1982. **DESIGN OF INTERACTIVE GRAPHICS FOR DEM SAMPLING**. International Archives of Photogrammetry, VOL XXIV-III, Helsinki.

Östman A, 1980. **TREATMENT OF ANTHROPOMETRIC DATA FOR THE DESIGN OF CHILDREN´S GLASSES**. International Archives of Photogrammetry, Vol XXIII, Part B5, Hamburg.

REPORTS AND THESIS

Östman A, 1986. **QUALITY CONTROL AND ACCURACY ESTIMATION OF DIGITAL ELEVATION MODELS**. Dissertation. Department of Photogrammetry, KTH, Stockholm.

Östman A, 1984. **INTERACTIVE GRAPHICAL CONTROL OF PHOTOGRAMMETRIC MEASUREMENTS FOR DIGITAL ELEVATION MODELS**. Licentiate thesis. Royal Institute of Technology, Stockholm.

Östman A, 1981. **CLASSIFICATION OF THE FORM OF CHILDREN´S NOSES**. Fotogrammetriska meddelanden, 2:45, Stockholm.

Östman A, 1981. **A REVIEW OF STEREOPHOTOGRAMMETRIC MEASUREMENTS OF LEG ULCERS**. Fotogrammetriska meddelanden 2:45, Stockholm.

PUBLICATIONS IN SWEDISH

Östman A, 2008. **SIBIRIEN – ETT MYTOMSPUNNET OMRÅDE MED INTRESSE FÖR GIS**. TFG-bladet 2008:1.

Östman A, 2005. **SKYDDADE OMRÅDEN – ETT VIKTIGT TEMA I INSPIRE**. Nordisk geomatik nr 4/2005, pp16-18.

Östman A, 1999. **DISTRIBUERADE GEOGRAFISKA METADATA**. ULI rapport 1999:2, Gävle.

Östman A, 1997. **ATT DEKLARERA OCH SÄKERSTÄLLA KVALITET I GEOGRAFISKA DATA**. Den Nordiska AM/FM-konferensen i Kolding, Nov 1997.

Gyllenberg V, Östman A, 1996. **STANDARDISERING INOM GEODATAOMRÅDET**. Slutrapport Försvarsmakten 18400:72031.

Östman A, 1995. **TRANSPORTTELEMATIK FÖR GODS- OCH PERSONTRANSPORTER**. Stencil, avd f geografisk informationsteknik, Högskolan i Luleå.

Östman A, 1995. **INTERPOLERING AV GEOGRAFISKA DATA**. Kurskompendium, Högskolan i Luleå.

Östman A, 1994. **MKB, DATAKVALITET OCH OSÄKERHET**. Kartbladet, Nr 2, 1994, pp 30-39.

Östman A, Lundborg G, Forsberg Å, 1994. **SAMHÄLLSPLANERING - KUNSKAPSUNDERLAG OCH MILJÖKONSEKVENSER**. Teknisk rapport 1994:05T, Tekniska Högskolan i Luleå.

Östman A, 1990. **OLIKA KVALITETSBEGREPP**. Föredrag vid ULI´s konferens om dataförsörjning till geografiska informationssystem, 22-24 oktober 1990, Ronneby.

Östman A, 1987. **MÄRKNING AV DATAKVALITET**. Föredrag vid SKTF:s seminarium om digitala kartor, 4-5 februari 1987, Göteborg.

Östman A, 1987. **TIGRIS - ETT TOPOLOGISKT BASERAT GEOGRAFISKT INFORMATIONSSYSTEM**. Svensk Lantmäteritidskrift, 1987:1.

Östman A, 1987. **FÖRBÄTTRAD ERGONOMI HOS STEREOINSTRUMENTEN**. Sinus, 1987:4, pp 6-14.

Östman A, 1986. **EN PC-BASERAD GRAFISK EDITOR FÖR DIGITALA HÖJDMODELLER**. Svensk Lantmäteritidskrift, Nr 1986:3, pp 129-134.

Östman A, 1986. **STANDARDER FÖR LÄGESBUNDEN INFORMATION - EN INTERNATIONELL UTBLICK**. Stencil, Institutionen för fotogrammetri, KTH, Stockholm.

Östman 1985. **DIGITAL MONOKARTERING - EN FOTOGRAMMETRISK METOD FÖR AJOURHÅLLNING AV STORSKALIGA KARTOR OCH KARTDATABASER**. Rapport R146:1985, Statens råd för byggnadsforskning, Stockholm.

Östman, 1985. **DIGITAL MONOKARTERING - ETT ALTERNATIV TILL FÄLTMÄTNING OCH STEREOKARTERING**. Svensk Lantmäteritidskrift, 1985:6

Torlegård K, Lindgren R, Östman A, 1984. **ETT JÄMFÖRANDE FÖRSÖK MED FOTOGRAMMETRISKT MÄTTA DIGITALA HÖJDMODELLER**. Svensk Lantmäteritidskrift, nr 2 - 1984.

Östman A, 1984. **METODER FÖR UPPSKATTNING AV NOGGRANNHETEN I DIGITALA HÖJDDATABANKER**. STU-rapport 83-3391.

Östman A, 1984. **RESERAPPORT FRÅN XV FOTOGRAMMETRISKA KONGRESSEN I RIO DE JANEIRO**. Svensk Lantmäteritidskrift, 1984:5.

Östman A, 1984. **HUR AJOURHÅLLER KOMMUNERNA SINA PRIMÄRKARTOR? - REDOVISNING AV EN ENKÄTUNDERSÖKNING**. Svensk Lantmäteritidskrift, 1984:5.

Wiberg B, Östman A, 1983. **FOTOGRAMMETRISK DIGITAL KARTERING MED MIKRODATOR**. STU-rapport 81-3464.

Östman A, 1982. **FOTOGRAMMETRISK MÄTNING AV DIGITALA HÖJDMODELLER - EN INTERNATIONELL ÖVERBLICK**. Rapport R39:1982. Statens råd för byggnadsforskning, Stockholm.

Östman A, 1980. **KLASSINDELNING AV NÄSFORMER HOS BARN**. STU-rapport nr 79-3282.

Simonsson G, Westermark E, Wiberg B, Östman A, 1979. **Storskalig halvautomatisk kartering (SHAFK). Delrapport 3**, Institutionen för fotogrammetri, KTH, Stockholm.

Östman A, 1979. **Övningskompendium, fotogrammetri fk IV**. Institutionen för fotogrammetri, KTH, Stockholm.

Ederyd J, Östman A, 1978. **Stereofotogrammetrisk angiografi - Noggrannhet vid varierande baslängd och basriktning**. Fotogrammetriska meddelanden 2:41, Stockholm.