### 1. Docent Pia Thörngren Engblom - Curriculum Vitæ

1.1 BIRTH DATE December 7th 1953

1.2 MALE/FEMALE Female

1.3 ADDRESS Carl Malmstens väg 4

SE-1170 73 Solna, Sweden

1.4 CONTACT INFORMATION

AlbaNova University Center KTH Royal Institute of Technology

Physics Department School of Engineering Sciences SE - 106 91 Stockholm, SWEDEN

ACADEMIC APPOINTMENTS

**CURRENT** 

1.5 Researcher

Department of Physics, University of Ferrara

APPOINTMENT

Affiliated faculty

Physics Department, KTH School of Engineering Sciences

Thysics Department, XIII sensor of Engineering second

1.7 PREVIOUS APPOINTMENTS Researcher (75%) Researcher (10%)

Physics Department, KTH School of Engineering Sciences

 Main functions: Coordinator of the PAX Collaboration Analysis Group Spokesperson of COSY Exp. Proposal 202.1

• Main focus: spin observables in few-nucleon reactions, experiments in preparation for electric dipole moment searches, longitudinal spin filtering

Researcher Jan 2011 to Dec 2012

Department of Physics, University of Ferrara

- Main functions: Coordinator of the PAX Analysis Group (spin-filtering experiment and breakup reactions), Spokesperson of COSY Letter-of-Intent and Proposal 202
- Main focus: spin filtering, spin observables in few-nucleon reactions

Researcher (50-75%)

Jan 2009 to Jan 2011

Sep 2013 to Aug 2014

Jan 2013 Sep 2013

Jan 2012 Dec 2012

Sep 2013 -

Phone: +46 (0)8 5537 8118

Mobile: +46 (0)762 00 9153

Fax: +1-46 (0)8 5537 8216

E-mail: piate@kth.se

Physics Department, Stockholm University

- Main function: Researcher, Spokesperson of COSY Letter-of-Intent 202
- Main focus: spin filtering, spin observables in few-nucleon reactions

Associate Professor (Universitetslektor) (50%)

Oct 2008 to Jan 2010

Department of Electronics, Mathematics and Natural Sciences, University of Gävle

- Main function: Lecturer
- Main focus: physics and astronomy courses, course development

Researcher/Project Leader

Jan 2007 to Aug/Dec 2008

Department of Physics and Astronomy/Centre for Gender Research/ Equalities Office, Uppsala University

- Main function: Researcher, Supervisor, Project Leader
- Main focus: hadron physics, gender equality

Researcher March 2006 to Dec 2006

Department of Physics and Astronomy, Uppsala University

- Main functions: Supervisor, Lecturer and Course responsible
- Main focus: hadron physics, double-meson production

### Assistant Professor Forskarassistenttjänst

May 2001 to Feb 2006

funded by the Swedish Research Council

Department of Physics and Astronomy, Uppsala University

- Main functions: Researcher, Supervisor, Lecturer, Spokesperson of CELSIUS Exp. Proposal CE65 Study of two-pion production in pd and dd reactions
- Main focus: hadron physics, double-meson production, spin physics, three-nucleon force, analysis method development, teaching 20%.

#### Postdoctoral Research Associate

June 1999 to April 2001

funded by the Swedish Research Council

Department of Physics and Astronomy, Uppsala University

Main focus: single and double pion-production, Spokesperson of CELSIUS Exp.
 Proposal CE65 Study of two-pion production in pd and dd reactions

### Postdoctoral Research Associate

Aug 1997 to May 1999

Indiana University Cyclotron Facility, Bloomington, Indiana, USA

- Supervisor: Professor Hans Meyer
- Main focus: polarization in few-nucleon reactions, PINTEX collaboration

# 2. ACADEMIC COMPETENCE

### **Docent** (Habilitation) in Nuclear Physics, Uppsala University

Nov 2003

• Docent lecture title: Probing the spin dependence of the three-nucleon force

# 2.1 ACADEMIC EDUCATION

### Stockholm University, Physics Department

Ph.D., Doctor of Philosophy in Physics

June 1997

- Thesis title: Development of a zero-degree spectrometer in CELSIUS and the  $d+d \rightarrow {}^4He+2\pi$  reaction close to threshold, ISBN/ISSN: 9171536329, 9789171536327
- Supervisors: Professor Christoph Bargholtz, Professor Per-Erik Tegnér
- Area of Study: meson production, solid state detector technology in storage rings

### Fil. Lic., Licentiate of Philosophy in Physics

July 1996

- Thesis title: A zero-degree spectrometer in CELSIUS and the  $d(d, 2\pi)^4He$  reaction, USIP-96-03
- Supervisors: Professor Christoph Bargholtz, Professor Per-Erik Tegnér
- Area of Study: meson production, germanium detector technology in storage rings

#### B.S., Bachelor of Science in Physics

Sep 1990

• Thesis title: Cosmic ray muons as a calibration source for high-energy gamma-ray detectors, USIP-90-06

# 2.2 OTHER EDUCATION

## **University College of Dance and Circus**

Aug 1983 - June 1984

 Pedagogical Diploma in classical ballet, one-year education and accreditation for professional dancers

#### Balettakademien, Stockholm

Aug 1972 - June 1974

• Professional dancer education, scholarship student

# 3. SCIENTIFIC EXCELLENCE

3.1

International Networks • Member of the Nuclear Physics Commission C12

2006-2011

Swedish representative among 14 members from North and South America, Asia, Europe and Australia. C12 is one of 20 commissions joined in the International Union for Pure and Applied Physics (IUPAP). Its objective is to enable international cooperation, aiming to help in the application of physics toward solving problems of concern to humanity. The commission appoints the Young Scientist Prize and support international, topical and regional conferences.

- Member of the European Research Committee on Few Body Problems in Physics (ERCFBP)
   2004-2007
- Member of the American Physical Society since 1997

### 3.2 INTERNATIONAL COLLABORATIONS AND LEADERSHIP

RESEARCH INTERESTS

**Fundamental symmetries:** precision studies to control the spin of particles in a polarized beam; preparation for a search of a permanent particle electric dipole moment which is related to the issue of the excess of matter over antimatter in the universe.

**Nucleon structure:** feasibility tests and commissioning experiments for the production of polarized antiproton beams, spin structure and transversity of the proton.

**Symmetries of low-energy QCD:** spin observables and precision as selection tools testing the predictive power of chiral effective field theory.

**Hadron physics:** polarization and the analysis of spin observables in few-nucleon reactions, three-body forces, meson production.

#### Listed present collaborations:

- The EDM@COSY experiment, Spokesperson Ed Stephenson
   The JEDI Collaboration Spokespersons Prof. Dr. Jörg Pretz, PD Dr. Andreas Lehrach and PD Dr. Frank Rathmann,
   Analysis and experiment since February 2013
- Collaboration with theorists Dr. Andreas Nogga and Prof. Evgeny Epelbaum IKP Forschungszentrum Jülich and Bochum University, Germany
- The PAX Collaboration Polarization Antiproton eXperiments
   Spokespersons: PD Dr. Frank Rathmann and Dr. Paolo Lenisa
   Coordinator of PAX Analysis Group, Spokesperson COSY Proposal 202.1, Visiting Scientist at IKP-FZJ and COSY during 1-2 months per year

# PREVIOUS SCIENTIFIC COLLABORATIONS

The CELSIUS/WASA collaboration, Wide Angle Shower Apparatus
 Spokesperson: Bo Höistad

Postdoc and Senior Member, Spokesperson for CELSIUS Exp. Proposal CE65 My proposal initiated a revisiting of the so called ABC effect, an anomaly in the production of two pions in the isospin zero channel, related to the  $\sigma$  boson that is responsible for the intermediate range attraction in the nucleon-nucleon force, i.e. the force that holds nuclei together. More than ten papers were published by the CELSIUS-WASA Collaboration on this topic and is of continued interest by the WASA@COSY collaboration.

The PINTEX collaboration, Polarized INternal Target EXperiments
 Indiana University Cyclotron Facility, Bloomington Indiana,
 Spokesperson: Hans Meyer

Postdoc and Senior Member; Shiftleader and Visiting Scientist at IUCF eight periods of 2-4 weeks after the postdoc period: I participated in experiments as shift leader, was responsible in data analysis and I developed the *Sampling method*, a general analysis method of three-particle final states, together with the PI and a postdoc in theory, Dr. Joanna Kuros.

3.4 Invited talks Seminars Conference Contributions Since 2003

Seminar, Spin formalism and cross sections for spin-one and spin-half collisions, November 29, 2013, Nuclear Physics Division, Department of Physics, KTH, Stockholm, Sweden

- Invited conference talk on PAX and polarized antiproton beams, 11th international conference on Low Energy Antiproton Physics, LEAP 2013, June 10-15 2013, Ångström Laboratory, Uppsala, Sweden
- Seminar, A complete double polarized pd breakup experiment for testing chiral effective field theory, November 9th 2012, Nuclear Physics Division, Department of Physics, KTH, Stockholm, Sweden
- Invited talk parallel session, *A complete polarized low-energy proton-deuteron breakup experiment*, The 20th International Symposium on Spin Physics SPIN2012, September 17 22, 2012, JINR, Dubna, Russia
- Invited talk plenary contribution, Extensive high precision studies of proton deuteron breakup reactions at COSY, 8th International Conference at Storage Rings, STORI'11, October 9-14 2011, Laboratori Nazionali di Frascati, Roma, Italy
- Invited talk parallel session, New experimental approach to modern three-nucleon forces, Member of the local organizing committee, 19th International Spin Physics Symposium SPIN2010, September 27 - October 2, 2010, Forschungszentrum Jülich, Germany
- Organizer with P.-E. Tegnér, Stockholm Hadron Physics Week in conjunction with XXXIII PANDA Collaboration Meeting, Stockholm June 14-18, 2010
- Invited talk on behalf of the PAX Collaboration, *Polarized antiprotons, WP25: PolAntiP*, Joint Research Activity HadronPhysics3 Kick-off Meeting, September 18th 2010, Paris, France
- Invited talk, Road map to polarized antiproton experiments with PAX, Annual Meeting Netværk for Kvinder i Fysik i Danmark og Women in Physics in Sweden, in conjunction with Danish Physical Society Nordic Meeting, June 15 2009, Danmarks Tekniske Universitet, Copenhagen, Denmark
- Chair of the organizing committee and initiator of the conference Crossing Perspectives on Gender and Physics, a joint collaboration project between the Nordic Network for Women in Physics (NorWip) and the GenNa project, September 17-19 2008, Ångström Laboratory, Uppsala
- Invited talk, Realistic experimental constraints in the analysis of few-body reactions, ANKE/PAX Workshop on Spin Physics, May 29 - June 1 2007, Univ. of Ferrara, Italy
- Talks: International Union for Pure and Applied Physics (IUPAP) C12 and WG9; Theoretical predictions and realistic constraints in few-nucleon experiments, XXVII Annual Meeting of Swedish Nuclear Physicists, November 13-14 2007, Gothenburg, Sweden,
- Contribution talk, Few-body reactions and the sampling method, International Nuclear Physics Conference, INPC2007, June 3-8 2007, Tokyo, Japan,
- Invited seminar, Relations between experiment and theory in few-body final states,
   Theoretical Physics Seminar series at BNL, November 2nd 2006, Brookhaven National Laboratory, Uptown, New York, USA
- Contribution talk, Anisotropy in the angular distribution of  $pp \to pp\pi^0$  at 400 MeV, MESON2006, June 9-13 2006, Krakow, Poland
- Contribution talk, The production of two pions in the isospin zero channel,
   EtaMesonNet Workshop on production and decay of η and η/, September 15 18 2005,
   Krakow, Poland
- Invited seminar, Realistic experimental constraints in few-body problems and the Sampling method, Department of Radiation Sciences, September 2nd 2005, Uppsala University, Uppsala, Sweden

- Invited overview talk, Experimental studies of the spin dependence in few-nucleon systems, Hadron Physics Workshop at COSY, July 25-29 2005, Physikzentrum Bad Honnef, Germany
- Contribution talk, The experimental search for evidence of the three-nucleon force & A new analysis method, XXIV Annual Meeting of the Swedish Physical Society, November 11-12, 2004, Uppsala University
- Invited overview talk, Spin dependence in pd interactions at intermediate energies, Caucasian-German School and Workshop on Hadron Physics, August 30 - September 4 2004, Tbilisi, Georgia
- Contribution talk, Experimental search for evidence of the three-nucleon force and a new analysis method, 19th European Few-Body Conference, August 23-27 2004, Groningen, The Netherlands
- Invited Docent Seminar, Probing the spin dependence of the three-nucleon force, November 2003, Ångström Laboratory, Uppsala University

#### 3.6 OTHER See separate enumerated Publication list

#### GRANTS AND AWARDS

### **European Commission CORDIS**

- 7th Framework Programme, Capacities, Research Infrastructures, 68 kEuro 2012-2014 Project title: Study of Strongly Interaction Matter (HadronPhysics3), Work Package 25 Polarized Antiprotons (PolAntiP); grant agreement no. 283286; Activity Leader KTH, Member of Governing Board
- 7th Framework Programme, Capacities, Research Infrastructures, 68 kEuro 2009-2011 Project title: Study of Strongly Interaction Matter (HadronPhysics2), Work Package 25 Polarized Antiprotons (PolAntiP); grant agreement no. 227431; Activity Leader SU, Member of Governing Board
- Travel funds for research stays at COSY, Jülich, Germany 2012-2013 Transnational Access to COSY, Work Package 13(14), Hadronphysics2 (3)

#### **Swedish Research Council**

<ul> <li>Travel grants for research stays in Jülich, Germany, 71 kSEK</li> <li>PAX Collaboration, experiment at COSY and collaboration meetings</li> </ul>	2010-2011
<ul> <li>Travel grants for international representation, 97 kSEK</li> </ul>	2008-2010
<ul> <li>4-year grant for employment as Assistant Professor, 2.9 MSEK         Hadron Physics - Few-Body Systems and Meson Production         Starting date 2001-05-01 at Uppsala University</li> </ul>	2000-2005
Göran Gustafsson Foundation, 50 kSEK Research grant no. 0195, 2001-07-01	2000
Nominated for Best thesis of the year in the natural sciences representing the Department of Physics, Stockholm University	1997
Fredrika Bremer-förbundet grant for physics studies	1994
<b>NorFA</b> grant for graduate course <i>Nucleon-nucleon interaction</i> Lecturer Professor M. Hjorth-Jensen, Oslo University	1996
Royal Swedish Academy of Sciences grant for summer school and conference	e 1995

8th Indian-Summer School on Intermediate-Energy Physics; Mesons and Light Nuclei '95,

Prague, Czech Republic, July 3 - 15, 1995

Lecturers: V. Burkert, N. Kaiser, G. Ripka, R. Timmermans, J.M. Nieves

# 4 PEDAGOGICAL EXCELLENCE

# PEDAGOGICAL CREDENTIALS

- Certificate from Supervisor Course, Handledning utan gränser, 3 credits (3 weeks FTE),
   Uppsala University

  Fall 2005
- Certificate from Pedagogical Course for University Teachers, 4 credits (4 weeks FTE),
   Uppsala University 2001

  Fall 2001

# 4.1 INDIVIDUAL STUDENT ADVISING

#### Supervisor for

- Fil. Lic. Klas Marcks von Würtemberg, Stockholm University, dissertation Instrumentation development for physics with antiproton beams
- Dr. Karin Rathsman, dissertation Modeling of Electron Cooling: Theory, Data and Applications, Uppsala University

  2010
- Dr. Samson Negasi Keleta, dissertation Double Pion Production in dd-Collisions 2008
   Licentiate thesis A Study of the WASA detector Using the Reaction pp → ppπ<sup>0</sup> at 400 MeV (2006)

#### Individual Mentor for

 Dr. Susanna Bertelli, dissertation Proton induced deuteron breakup reaction studies at COSY, University of Ferrara, Italy

2011

# 4.2 TEACHING MERITS

- Lecturer, Course Coordinator: Astronomy(with course development), Space and Weather, Astro- and Geophysics with didactics, Theoretical Methods in Physics, Foundations of Quantum Mechanics, kursplaner, University of Gävle
- Lecturer, Course Coordinator: *Quantum Physics*, Engineering program 3rd year, Energy systems, Uppsala University
- Experimental Instructor: Laboratory assignment development and instruction, *The Art of Measurement Metrology*, graduate course with Prof. Leslie Pendrill, Uppsala University and Swedish National Testing and Research Institute
- Laboratory Instructor (STINT Fellow): *Modern physics and fundamental constants*, Sophomore laboratory course with Prof. B.M.K. Nefkens, UCLA, USA
- Lecturer: Nuclear Physics in *Modern Physics*, Engineering program 3rd year, Uppsala University
- Lecturer and Exercises: *Elementary Statistics and Error Analysis* (with course development), *Introductory Computer and Programming*, Stockholm University
- Laboratory Instructor: Nuclear Physics Laboratory, Stockholm University

#### Quotes from students' evaluations:

University of Gävle (2005):

"Jag tycker att under alla mina år på högskolan i Gävle så har jag aldrig haft en så bra lärare som Pia. Hon har verkligen sett till att alla hängde med på föreläsningarna. Bästa pedagogiken och man fick ännu mera mod att ställa frågor, vilket man kanske ej gör i vanliga fall." (2005)

UCLA, USA (2005):

"Pia was one of the best, most knowledgeable TA's I have encountered in the physics department. I hope she comes back soon."

"The TA is very knowledgeable and very helpful. She explains the concepts step by step and does a good job in emphasizing the important points. Also, her very friendly atmosphere

makes it very easy and comfortable to ask for help.""

"Pia rocked. Not in the Lenni Kravitz, but more in the Richard Feynman way."" *Uppsala University* (2006):

Mean value of all evaluation questions: 4.2 (1-5 scale)

# POPULAR PRESENTATIONS

- Invited research presentation at AlbaNova University Centre for master students, Berlin and Uppsala Summer School Diversity in the Cultures of Physics (August 6 31 2012) arranged by Freie Universität Berlin and Uppsala University
- Invited talk at Teachers' Conference, *Modern physics and fundamental constants*, 100 år med Albert Einstein, November 18-19 2005, Ångström Laboratory, Uppsala, Sweden
- Kvinnor i Fysik Women in Physics, historical review article, contribution to KOSMOS 2004: 111-142, annually published by The Swedish Physical Society with Gabriella Andersson et al.,
- Fysik och svensk historieskrivning, Article on the Nobel Prize for nuclear fission and the lack of Swedish recognition of the contributions to the discovery of Prof. Lise Meitner, Fysikaktuellt 2003 nr 4, Swedish Physical Society newsletter published four times annually
- Invited talk at High School Teachers Conference on the subject 'Women in Physics' at 'Uppsala Naturvetardagar', arranged by Prof. Gunnar Tibell, Atrium Konferens, Nov 29-30 2002, Uppsala, Sweden
- Invited physicist to lead physics 'hands on' workshops at 'Conference for Girls on Careers in Math, Science and Technology', outreach seminars aimed at junior high school students, March 1998 & 1999, Indianapolis, USA
   Evaluation reference Carla Bennet: "...the evaluation forms from the facilitators, volunteers and girls were GLOWING. The girls especially enjoyed the interactive hands-on nature of your workshop. Thanks again for being a wonderful role model and for displaying enthusiasm for your physics career."

# 5 LEADERSHIP EXCELLENCE

Scientific leadership see under item 3.

### COURSES LEADERSHIP CREDENTIALS

 Leadership Course, Att leda som kvinna Leader: Barbro Dahlbom-Hall

Mar - Dec 2008

• Leadership Course, Organizational and personal development Leader: Britt Frei, Integro Utbildning

Nov 2005

2000-2004

# 5.1 LEADERSHIP IN THE SWEDISH COMMUNITY

- Coordinator of a Mentor Program for Junior Women Faculty
   Matching mentors and mentees, organizing workshops and leading seminars.

   Appointed by the Faculty of Science and Technology, Uppsala University
- Board member of the Swedish Nuclear Physicists' Society
- Election committee member, initiator of a new section Women in Physics of the Swedish Physical Society
   2001-2002
- Member of the organizing committee of the first meeting for Women in Physics in Sweden (WiPS), Women Talking Physics, Ångström Laboratory, Uppsala, March 23, 2001.
   Co-founder of the Network for Women in Physics in Sweden

## 5.2 LEADERSHIP IN • Expert referee in the Panel in Physics 1 for The Research Council of Norway 2011-2012 SERVING THE COMMUNITY • Invited Topic chair and Discussion leader with plenary talk (EXTERNALLY) Learning from Regional Differences, The 1st International Conference for Women in Physics, IUPAP, March 8 2002, UNESCO Headquarters, Paris, France. For the first time women physicists were organized internationally, I was appointed cochair and co-organizer with Elisa Molinari of the session on regional differences with approximately 80 conference attendees from 42 countries. 6 COOPERATION UNIVERSITIES THESIS • Doctor Europaeus referee, Dr. Paolo Benati, University of Ferrara, Italy 2012 REFEREEING AND Development of a new trigger system for spin-filtering studies COMMITTEES • Member of Ph.D. thesis committee, Dr. Henrik Jäderström, Uppsala University 2008 Fragmentation in Proton-Nucleus Reactions from 100 to 1400 MeV • Member of Ph.D. thesis committee, Dr. Martin Olsson, Uppsala University 2005 String theory at the horizon • Opponent for licentiate defence, Dr. Linda Gerén, Stockholm University 2004 • Member of Ph.D. thesis committee, Dr. Fredrik Edling, Uppsala University 2004 DIXI - a Hybrid Pixel Detector for X-ray Imaging • Member of Ph.D. thesis committee, Dr. Axel Lindroth, Uppsala University 2000 Octupole Collectivity and E1 Moments in Neutron Rich Nuclei • Member of Ph.D. thesis committee, Dr. Anders Gårdestig, Uppsala University 2000 As simple as ABC - the $dd \rightarrow X$ reaction explained OUTREACH • Invited panel debate member to the conference DRAW THE LINE, Cultural boundary **ACTIVITIES** Denmark, Lyngby, Denmark

- making in everyday academic work life, May 30-31 2008, an EU funded project: UP-GEM (Understanding Puzzles in the Gendered European Map, Technical University of
- Invited panelist to the Round Table Discussion, Women in Research and Public Policy, Third Annual Meeting of Nordic Network for Women in Physics (NorWiP), August 16-17 2007, Technical University of Denmark, Lyngby, Denmark,
- Invited seminar, Fysikers forskaridentitet i Jämställdlandia, April 24 2007, Centre for Gender Research, Uppsala University

#### **MISCELLANEOUS**

- Programming and computing: Fortran, C++, Root, Paw, Pascal, Maple, Mathematica, LATEX
- Operative systems: experienced user of linux, unix, windows xp, macOS
- Languages: Swedish (native), English (fluent), French and Spanish (highschool level)

OTHER PROFESSIONAL

**EXPERIENCE** 

Choreographer and dancer:

Blad vänder sig, Moderna Dansteatern, Stockholm Trois Dances music by Jehan Alain, Johannes kyrka, Stockholm

Feb 1986 July 1981-June 1982

Member of the ballet ensemble, Norrköpings Stadsteater, Member of the dance company, Cramérbaletten, Riksteatern

July 1981-June 1982 Jan 1980-June 1981

Mar 1987

selected works, Det falska spöket (soloist), Choreographer Mary Skeaping

Döderhultarn, Eko, Choreographer Mats Isaksson

Dancer, Den selvejende Inst. Teaterprod. Salome, Copenhagen Aug 1978-May 1979

Choreographer Flemming Flindt

Dancer, Pakhus 13 Ny Dansk Balletgruppe, Copenhagen Aug 1977-Dec 1977

Music by Stravinsky Le Sacre du Printemps, L'Histoire du Soldat (soloist)

Choreographer Eske Holm

Dancer, **Riksteatern** Jan 1976-Dec 1976

Musicals Gungbrädan, Chicago, Director Hans Bergström

Dancer, Stockholms Stadsteater, Klarateatern Aug 1973-June 1974

Galakväll, music by Gugge Hedrenius

Dancer, Sandrew Film & Teater AB, Stockholm Jan 1973-May 1973

Sånt Folk, Playwright Calle Z, Choreographer Herman Howell

OTHER GRANTS

Carina Ari Memorial Foundation

1984, 1978, 1975

Scholarships for young dancers, 10kSEK, 6 kSEK, 6 kSEK

**Sandrews Foundation** 

1974

Stipend for encouragement

**INTERESTS** 

Choir singing (I am the chair of Skönstavikskören, a mixed choir in Stockholm where I sing

soprano), Dance, Feldenkrais sensorimotor training, Literature.

More

WWW: LinkedIn: http://www.linkedin.com/pub/pia-thorngren-engblom/14/b88/143.

INFORMATION

WWW: ResearchGate: https://www.researchgate.net/profile/P\_Thoerngren\_Engblom/?ev=

hdr\_xprf.

Stockholm June 10th 2014

Paitly T

Pia Thörngren Engblom