Leif Adelöw

CONTACT INFORMATION

Kaprifolvägen 34
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EDUCATION

Uppsala University, Uppsala, Sweden   **August, 1992 − 1997**
Master in Science, Engineering Physics

- Programme: *Radiation Physics/Applied Physics*
- Master Thesis: *A Master Thesis on Pixel Array Detectors suitable for the ATLAS inner detector*

Sundstagymnasiet Karlstad, Sweden   **1990**
Upper secondary school (naturvetenskaplig linje)

Queen Anne's County High School, Maryland, USA   **1989**
Upper secondary school (High School)

Tinvallagymnasiet Karlstad, Sweden   **1986 − 1988**
Upper secondary school (naturvetenskaplig linje)

PROFESSIONAL EXPERIENCE

FOI, Swedish Defence Research Agency, Grindsjön, SWEDEN

Researcher   **March 2009-present**

Working with characterization and design of warheads and rockets. Designing experimental laboratory setups for testing explosives and propellants. Performing analysis on experimental data from various ballistic experiments. Constructing systems for x-ray tomography. Working with flash x-ray systems. Computational Physics (linear algebra, Monte Carlo).

XCounter AB, Danderyd, SWEDEN

Research Engineer   **August, 1999 − March 2009**

Working with design, development and productification of X-ray detectors. Developing software tools and simulators for tomographic reconstruction, X-ray attenuation in matter and electron-atom interaction. Experimentally verifying and testing new detector designs. Designing new X-ray systems. Performing litterature studies within the area of expertise. Writing specifications, verifications and testing routines. Holds an expertise within linear image systems and its implification on medical image performance. General experimental experience in

- ASIC testing,
- electrical assembly
- mechanical design and testing,
- cleanroom experience
    - plasma cleaning
    - ultrasonic cleaning
    - bonding machines etc,
- gas chromatography
- X-ray absorption spectroscopy (XAS)
- X-ray emission spectroscopy (XES)
- Holographic interferometry (HI)

KTH/DigiRay AB, EPI, KTH, Stockholm, SWEDEN

PhD student[1]   **January, 1998 − August, 1999**

Employed as a industry based PhD student at The Particle and Astroparticle Physics Group, The Royal Institute of Technology (KTH). Performed experimental work within a small group group in a multidiciplinary fashion.

Participated in regular group member issues such as monthly seminars, giving lectures etc. Conducted several classes in various experimental physics labs. Worked in a small group developing a novel position sensitive gas based X-ray detector. Due to the limited size of the group we worked in a truly multidisciplinary fashion with topics ranging from electronic measurements, code development to mechanical design.

In 1999 *Digiray AB* was renamed *XCounter AB* and moved to a different location.

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[1] Not completed

KTH/UU/LBNL, LBNL, Berkeley, CA, USA

Diploma work   **April, 1997 – December, 1997**

Worked with ASIC testing, detector testing and analysis of test beam data at the Detector R&D group, Physics Division, Lawrence Berkeley National Laboratory, CA, USA. This work was performed under the supervision of Prof. Sven Kullander, ISV, UU, Uppsala and Dr Kevin Einsweiler, LBNL

LBNL/CERN, CERN, Geneva, CH

Test Beam Activity   **Sept, 1997, 3 weeks**

Working with data aquisition and H8 beam line at CERN

COURSES AND
CONFERENCES
ATTENDED

- Business Development, *Ahredo AB* Linköping, 4 days, 2010
- Open radiation, operator cource, Stockholm, 2 days, 2009
- Explosives, Stockholm, 12 days, 2009
- Medical Imaging, *Society of Photo-Optical Instrumentation Engineers* (SPIE), San Diego , USA, 2006
- Nuclear Science Symposium & Medical Imaging Conference, *Institute of Electrical and Electronics Engineers* (IEEE), Portland, USA, 2003
      Cource: *Geant4*
- Medical Imaging, SPIE, San Diego, USA, 2003
- Nuclear Science Symposium & Medical Imaging Conference, IEEE, Norfolk, Virginia, 2002
      Cource: *Radiation Detection & Measurements*, 2 days
- International Workshop on Aging Phenomena in Gaseous Detectors, DESY, Hamburg, 2001
- Joniserande Strålning - grundkurs i strålskydd, SSM (former SSI), Solna, 2 days, 2001
- Imaging 2000, KTH, Stockholm, 2000
- Nuclear Science Symposium & Medical Imaging Conference, IEEE, Lyon, France, 2000
- Nuclear Science Symposium & Medical Imaging Conference, IEEE, Toronto, Canada, 1998
      Cource: Integrated Circuit Front Ends for Nuclear Pulse Processing, 2 days
      Cource: Fundamentals of Gas Detectors and Recent Developments, 2 days
- LabWindows/CVI Basic, National Instruments, Solna, 3 days, 1998
- Medical Imaging, SPIE, San Diego, USA, 1998
      Cource: Image Quality, 2 days

PATENTS

[1] Tom Francke and Leif Ericsson. Parallax-free detection of ionizing radiation, March 2002.

[2] Tom Francke and Leif Ericsson. Scintillator based detection apparatus and method using two-dimensional matrix of light detecting elements, May 2002.

PUBLICATIONS

[1] A. D. A. Maidment, C. Ullberg, T. Francke, L. Lindqvist, S. Sokolov, K. Lindman, L. Adelow, and P. Sunden, "Clinical evaluation of a photon-counting tomosynthesis mammography system," in Astley *et al.* [?, ?] pp. 144–151.

[2] S. M. Astley, M. Brady, C. Rose, and R. Zwiggelaar, eds., *Digital Mammography, 8th International Workshop, IWDM 2006, Manchester, UK, June 18-21, 2006, Proceedings*, vol. 4046 of *Lecture Notes in Computer Science*, Springer, 2006.

[3] A. D. A. Maidment, C. Ullberg, K. Lindman, L. Adelöw, J. Egerström, M. Eklund, T. Francke, U. Jordung, T. Kristoffersson, L. Lindqvist, D. Marchal, H. Olla, E. Penton, J. Rantanen, S. Solokov, N. Weber, and H. Westerberg, "Evaluation of a photon-counting breast tomosynthesis imaging system," in *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series* (M. J. Flynn and J. Hsieh, eds.), vol. 6142 of *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series*, pp. 89–99, Mar. 2006.

[4] A. Maidment, M. Albert, S. Thunberg, L. Adelow, O. Blom, J. Egerstrom, M. Eklund, T. Francke, U. Jordung, T. Kristoffersson, K. Lindman, L. Lindqvist, D. Marchal, H. Olla,

E. Penton, J. Rantanen, S. Solokov, C. Ullberg, and N. Weber, "Evaluation of a photon-counting breast tomosynthesis imaging system," in *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series* (M. J. Flynn, ed.), vol. 5745 of *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series*, pp. 572–582, Apr. 2005.

[5] S. J. Thunberg, L. Adelow, O. Blom, A. Coster, J. Egerstrom, M. Eklund, P. Egnell, T. Francke, U. Jordung, T. Kristoffersson, K. Lindman, L. Lindqvist, D. Marchal, H. Olla, E. Penton, V. Peskov, J. Rantanen, S. Sokolov, P. Svedenhag, C. Ullberg, and N. Weber, "Dose reduction in mammography with photon counting imaging," in *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series* (M. J. Yaffe and M. J. Flynn, eds.), vol. 5368 of *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series*, pp. 457–465, May 2004.

[6] S. J. Thunberg, T. Francke, J. Egerstroem, M. Eklund, L. Ericsson, T. Kristoffersson, V. N. Peskov, J. Rantanen, S. Sokolov, P. Svedenhag, C. K. Ullberg, and N. Weber, "Evaluation of a photon-counting mammography system," in *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series* (L. E. Antonuk and M. J. Yaffe, eds.), vol. 4682 of *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series*, pp. 202–208, May 2002.

[7] T. Francke, M. Eklund, L. Ericsson, T. Kristoffersson, V. Peskov, J. Rantanen, S. Sokolov, J. Söderman, and C. Ullberg, "Dose reduction in medical X-ray imaging using noise free photon counting," *Nuclear Instruments and Methods in Physics Research A*, vol. 471, pp. 85–87, Sept. 2001.

[8] T. Francke, M. Eklund, L. Ericsson, T. Kristoffersson, V. N. Peskov, J. Rantanen, S. Sokolov, J. E. Soederman, C. K. Ullberg, and N. Weber, "Dose reduction using photon-counting x-ray imaging," in *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series* (L. E. Antonuk and M. J. Yaffe, eds.), vol. 4320 of *Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series*, pp. 127–132, June 2001.

COMPUTER
SKILLS

- Software Packages: Matlab, Femlab, Autocad
- Programming: Matlab (MEX), C/C++, C#, Qt, Fortran, SQL, Python, Perl, CVI , LabView, Linux shell scripting, MPI, OpenCL, CUDA
- Administration: LDAP, Apache, Sendmail, VirtualBox
- Publishing: LaTeX 2$_\varepsilon$

REFEREES

Available on request.