

# CURRICULUM VITAE

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<b>E-mail</b>	Alexander.Kluge@cern.ch	
<b>Date of Birth</b>	15 April 1968	
<b>Place of Birth</b>	Vienna, Austria	
<b>Nationality</b>	Austrian	

## Education

**Doctorate (Ph.D.) in Electronic Engineering** (Applied Electronics), with First Class Honours,  
University of Technology Vienna,  
October 1997.

**Masters (Diplom Ingenieur) Degree in Electronic Engineering**,  
University of Technology Vienna,  
December 1993.

**Ingenieur and College Degree of the Technical College for Electronics and Telecommunication Vienna**, with First Class Honours,  
Höhere technische Bundeslehranstalt Wien,  
May 1987.

## Work Experience

**CERN (European Organization for Nuclear Research)**, Electronics Design Group,  
Geneva, Switzerland,  
since January 2000.

### Duties and Responsibilities:

- Management and system coordination of a multi-national industrial/research project;
- Team leader and supervisor of design team consisting of electronic engineers, physicists and technicians;
- Coordination of industrial partners;
- System Concept Design;
- Development, Production, Testing and Implementation of a Silicon Pixel Detector system and hardware/software based data acquisition system;
- Time schedule planning;
- Preparation of cost estimates;
- System qualification;

## Work Experience continued

- System installation coordination;
  - Development of electronic modules, printed circuit boards, ceramic hybrids and multi-layer kapton structures;
  - Full system electronics simulation (VERILOG, VHDL);
  - FPGA design;
  - Development of radiation tolerant application specific integrated circuits (ASIC);
  - Development of Multi Chip Modules;
  - Member of the development team of an 1.6 Gb/s optical link;
- Key achievements: Project and team coordination for the system development and implementation. Devising, optimizing and implementing the system concept.
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**CERN**, Electronics Design Group, Geneva, Switzerland,  
September 1998 until December 1999.

Duties and Responsibilities:

- Design and Development of a large sensor system and its data acquisition. The system comprises more than 176.000 sensor cells distributed over an area of more than 100 m<sup>2</sup>. The time resolution is better than 150 ps.
- Definition of requirements;
- Analog (PSPICE) electronics simulation and design;
- Digital (VHDL) electronics simulation and design;
- Coordination of the electronics design;
- Design of the overall architecture of the read-out system;
- Test beam measurements;
- Electronics support for detector development;

Key achievements: System concept design for the detector read-out.

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**CERN and Institute for High Energy Physics Vienna**, CMS Trigger Group, Staff and  
Doctoral Student, Geneva, Switzerland,  
May 1994 until August 1998.

Duties and Responsibilities:

- Design and Development of the CMS Muon Drift Tube Trigger.  
The system identifies and measures the energy of particles arriving in intervals of 25 ns in a time of less than 350 ns;
- Definition of requirements;
- Evaluation of several implementation methods;
- Qualification of the chosen base-line;
- Development of a VHDL-based simulation model;
- Development and qualification of a VME based prototype;

Key achievements: Feasibility study and risk analysis for an product launch 10 year later.

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## Computer Knowledge and Experience

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**Software packages:** Microsoft Project, Microsoft Word, Powerpoint, Excel, Adobe Framemaker, Latex, Photoshop.

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**Hardware description languages:** VHDL, VERILOG.

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**Programming languages:** C, C++, Fortran, Objective-C.

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**CAE:** Cadence PCB design tool kit (Project manager): ConceptHDL, Allegro; Cadence ASIC design tool kit (Design Framework II): Composer, Silicon Ensemble, Virtuoso, Hercules.  
Synthesis tools: Synplify, Leonardo, Design Analyzer (Synospis)  
FPGA design tool kit: Xilinx, Altera.  
Simulation tool kit: NCLaunch, NCVHDL, NCVerilog, Verilog XL, VisualHDL.

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**Operating Systems:** Unix, Windows, MacOS, OSX, Linux.

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## Languages

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German (mother tongue), English, French.

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## Additional Postgraduate Education

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**Managing Teams**, course, 2006.

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**Developing Supervisory Skills**, course, 2003.

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**Introduction to Management**, course, 2002.

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**Chairing or participating in meetings**, course 2001.

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**Negotiating Skills**, course, 2000.

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**Positive use of stress**, course, 1999.

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**Communicating effectively**, course, 1997.

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**Communicating effectively in a team**, course, 1997.

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**Making presentations**, course, 1996.

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## Further interest and Experience

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Private Pilot License.

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Member of Ski Instructors Training Team at the University of Vienna, Ski Instructor and licensed ski trainer.

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Hobbies: Skiing, Paragliding, Mountain biking, Travelling, Kitesurfing.

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## Publications and Conferences

### **The ALICE silicon pixel detector**

*Kluge A. et al.*, submitted to Nuclear Instruments and Methods in Physics Research A.

### **The Level 0 Pixel Trigger System for the ALICE experiment**

*Rinella G.A., Kluge, A., Krivda M.*, submitted to Journal of Instrumentation  
Proceedings of 12th Workshop on Electronics for LHC and Future Experiments LECC 2006 , Valencia.

### **The ALICE Silicon Pixel Detector Control System and Online Calibration Tools**

*Cali, I.A. et al.*, Proceedings of 12th Workshop on Electronics for LHC and Future Experiments LECC 2006 , Valencia.

### **The ALICE silicon pixel detector read-out electronics**

*Krivda, M. et al.*, Proceedings of 12th Workshop on Electronics for LHC and Future Experiments LECC 2006 , Valencia.

### **The ALICE Silicon Pixel Detector: System, components and test procedures**

*Riedler, P. et al.*, Nuclear Instruments and Methods in Physics A568 (2006), Pages 284-288

### **Production and Integration of the ALICE Silicon Pixel Detector**

*Riedler, P. et al.*, Nuclear Instruments and Methods in Physics NIMA46139.

### **Overview and status of the ALICE silicon pixel detector**

*Riedler, P. et al.*, Nuclear Instruments and Methods in Physics Research A565, (2006), Pages 1-5

### **The mechanics and cooling system of the ALICE silicon pixel detector**

*Pepato, A. et al.*, Nuclear Instruments and Methods in Physics Research A565 (2006), Pages 6-12

### **Infrared laser testing of ALICE silicon pixel detector assemblies**

*Osmic F. et al.*, Nuclear Instruments and Methods in Physics Research A 565(2006), Pages 13-17

### **Test of prototypes of the ALICE silicon pixel detector in a multi-track environment**

*Pulvirenti, A. et al.*, Nuclear Instruments and Methods in Physics Research A565(2006), Pages 18-22.

### **Performance of ALICE silicon pixel detector prototypes in high energy beams**

*Elia, D. et al.*, Nuclear Instruments and Methods in Physics Research A 565 (2006), Pages 30-35.

### **The ALICE silicon pixel detector front-end and read-out electronics**

*Kluge A.*, Nuclear Instruments and Methods in Physics Research A560 (2006), Pages 67-70.

### **The ALICE silicon pixel detector: electronics system integration**

*Kluge A et al.*, Nuclear Science Symposium Conference Record, 2005 IEEE  
Volume 2, 23-29 Oct. 2005 Page(s):761 - 764

### **Recent test results of the ALICE silicon pixel detector**

Riedler P. *et al.*, Nuclear Instruments and Methods in Physics Research A 549 (2005), Pages 65-69.

### **Test, Qualification and Electronics Integration of the ALICE Silicon Pixel Detector Modules**

I. Cali *et al.*, Proceedings of the 10th ICATPP, Como, Sept. 2005

### **Integration and test of the ALICE SPD readout chain**

Boccardi A. *et al.*, Proceedings of 10th Workshop on Electronics for LHC and Future Experiments LECC 2004 , Boston, MA, USA , 13 - 17 Sep 2004 - pages 47-50.

### **Beam Test Performance and Simulation of Prototypes for the ALICE Silicon Pixel Detector**

Conrad, J. *et al.*, Nuclear Instruments and Methods in Physics Research., A 535 (2004) 424-7.

### **Assembly procedure of the module (half-stave) of the ALICE Silicon Pixel Detector**

Caselle M. *et al.*, Nuclear Instruments and Methods in Physics Research A 518 (2004) 297-299.

### **Testbeam Performance of the ALICE Silicon Pixel Detector**

Nilsson, P. *et al.*, Nuclear Instruments and Methods in Physics Research., A 535 (2004) 424-427.

### **Probing and Irradiation Tests of ALICE Pixel Chip Wafers and Sensors**

Cinausero, M. *et al.*, Proceedings of the IMTC 2004, Como, Italy

### **Assembly Procedure of the ALICE Silicon Pixel Detector**

Caselle, M. *et al.*, Nuclear Instruments and Methods in Physics Research A, Vol. 518 (2004) p.297-299

### **Progress in the ALICE silicon pixel detector**

G. Stefanini, Nuclear Instruments and Methods in Physics Research A530 (2004), Pages 77-81

### **ALICE Silicon Pixel Detector**

Chochula, P. *et al.*, Nuclear Physics A715 (2003), p. 849c-852c

### **The ALICE Silicon Pixel Detector (SPD)**

Kluge, A. *et al.*, Como 2003, Proceedings of 8<sup>th</sup> ICATPP conference on Astroparticle, Particle, Space, Physics, Detectors and Medical Physics Applications

### **The Read-Out system of the ALICE pixel detector**

Kluge, A. *et al.*, Proceedings of the International Workshop on Semiconductor Pixel Detectors for Particles and X-Rays (PIXEL2002), Monterey, CA, 2002, eConf C020909 (2003)

### **Front-end Pixel Chips for Tracking in ALICE and particle identification in LHCb**

Wyllie, K. *et al.*, Carmel, USA, Sept. 9-12, 2002, SLAC Conference Proceedings C02/09/09

### **Recent Test Results of the ALICE Silicon Pixel Detector**

Riedler, P. *et al.*, Proceedings of the VERTEX Conference, Lake Windermere, UK, September 2003

### **ALICE Silicon Pixel Detector**

*Chochula, P. et al.*, Nuclear Instruments and Methods in Physics Research A715 (2003), p. 849c-852c

### **First Results from the ALICE Silicon Pixel Detector Prototype**

*Riedler, P. et al.*, Nuclear Instruments and Methods in Physics Research A, vol. 501 (2003) p.111-118

### **The ALICE silicon pixel detector readout system: moving towards system integration**

*Dinapoli, R et al.*, 8th Workshop on Electronics for LHC Experiments, Colmar, France , 9 - 13 Sep 2002 - pages 164-169

### **The ALICE Silicon Pixel Detector**

*Riedler, P. et al.*, Proceedings of the PIXEL2002 Conference, Carmel, USA, Sept. 9-12, 2002, SLAC Conference Proceedings C02/09/09

### **A Radiation Tolerant Gigabit Serializer for LHC Data Transmission**

*Moreira, P. et al.*, 7th Workshop on Electronics for LHC Experiments LEB 2001, Stockholm, Sweden, 10 - 14 Sep 2001 - pages 145-149

### **Irradiation and SPS Beam Tests of the ALICE1LHCB Pixel Chip**

*van Hunen, J.J. et al.*, Proceedings of the 7th Workshop on Electronics for LHC Experiments, Stockholm, Sweden, 10-14 September 2001, pages 85-89

### **The ALICE On-Detector Pixel Pilot System (OPS)**

*Kluge, A. et al.*, Proceedings of the 7th Workshop on Electronics for LHC Experiments Stockholm, Sweden, 10-14 September 2001, pages 95-100

### **The ALICE Pixel Detector Readout Chip Test System**

*Antinori, F. et al.*, Proceedings of the 7th Workshop on Electronics for LHC Experiments Stockholm, Sweden, 10-14 September 2001, pages 71-75

### **A Four-Gap Glass-RPC Time-of-Flight Array with 90 ps Time Resolution**

*Akindinov, A. et al.*, IEEE Trans. Nucl. Sci. 48 (2001) no. 5, pp.1658-1663

### **The ALICE silicon pixel detector readout system, 6th Workshop on Electronics for LHC Experiments LEB 2000**

*Burns, M. et al.*, Cracow, Poland , 11 - 15 Sep 2000 - pages 105

### **The multigap resistive plate chamber as a time-of-flight detector**

*Akindinov, A. V. et al.*, Nucl. Instrum. Methods Phys. Res., A 456 (2000) 16-22

### **G-link and gigabit Ethernet compliant serializer for LHC data transmission**

*Moreira, P et al.*, IEEE Nuclear Science Symposium and Medical Imaging Conference NSS-MIC 2000 , Lyon, France , 15 - 20 Oct 2000 - pages 9/6-9

### **Feasibility Study of the CMS First Level Muon Trigger Track Finder**

*Kluge, A., Wildschek, T.*, Nucl. Instrum. Methods Phys. Res., A 452 (2000) 505-17.

### **Study of the ALICE Time of Flight Readout System- AFRO**

*Kluge, A.*, Proceedings of the Fifth, Workshop on Electronics for LHC Experiments, Snowmass, September 20 -24, 1999.

### **Feasibility of the Hardware Muon Trigger Track Finder Processor in CMS**

*Kluge, A., Wildschek, T. , IEEE Trans. Nucl. Sci. 46 (1999) no. 2, pp.78.*

**The Hardware Track Finder Processor in CMS at CERN**

*Kluge A., Dissertation at the University of Technology, Vienna, 1997, CERN-THESIS-98-016*

**The Hardware Muon Trigger Track Finder in CMS Method and Specification**

*Kluge, A., Wildschek, T. , CMS note, 1997.*

**The Hardware Muon Trigger Track Finder in CMS Architecture and Algorithm**

*Kluge, A., Wildschek, T. , CMS note, 1997*

**The Hardware Muon Trigger Track Finder in CMS Prototype and Final Implementation**

*Kluge, A., Wildschek, T. , CMS note, 1997.*

**The Track Finder of the CMS First Level Muon Trigger**

*Kluge, A., Wildschek, T. , Third Workshop on Electronics for LHC Experiments, CERN/LHCC/97, pages 329-332, November, 1997*

**Der Hardware Track Finder Processor in CMS am CERN**

*Kluge, A., Wildschek, T. , A. Taurok, Österreichische Physikalische Gesellschaft, Fachausschußtagung für Kern- und Teilchenphysik, Lindabrunn, September 1997.*

**Track Finding Processor in the DTBX Based CMS Barrel Muon Trigger**

*Kluge, A., Wildschek, T. , Second Workshop on Electronics for LHC Experiments, CERN/LHCC/96-39, October 21, 1996*

**Der österreichische Beitrag zum Experiment CMS am CERN**

*Kluge, A. et al., Österreichische Physikalische Gesellschaft, Fachausschußtagung für Kern- und Teilchenphysik, Weyer, September 1996.*

**Track Finding Processor in the DTBX Based CMS Barrel Muon Trigger**

*Kluge, A., Wildschek, T., First Workshop on Electronics for LHC Experiments, CERN/LHCC/95-56, October 1, 1995.*

**Ein schneller Trigger für ein Experiment am CERN (A fast Trigger for an experiment at CERN (RD5))**

*Kluge, A., Techn.Univ.Wien, Diploma Thesis,1993*

**The construction and performance of single-layer honey comb strip chambers in the TRACAL detectors of RD5**

*Bakker, F. et al., Nucl. Instrum. Methods Phys. Res., A : 330 (1993), 44-54.*

**Status report of the RD5 experiment**

CERN-DRDC-93-49, DRDC-Status-report-RD-5

**Pattern Comparator Trigger (PACT) for the muon system of the CMS experiment**

*Andlinger, A. et al., Nucl. Instrum. Methods Phys. Res., A 370 (1996) 389-395*