

# Curriculum Vitae

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## Personal Data

Name: Lukas Graber  
Date of Birth: 23 Nov. 1976 in Basel, Switzerland  
Nationality: Swiss, citizen of Basel  
Civil status: single  
Swiss & Florida Driver's licenses  
Swiss & FAI Paraglider pilot licenses  
Medical Certificate JAR-FCL3

## Education

2004 – 2009 **PhD studies** on detection of leakage in SF<sub>6</sub>-insulated high-voltage switchgear, at High Voltage Laboratory, ETH Zurich; **Study of pedagogics and didactics** at ETH Zurich  
2001 – 2002 **Master Thesis** "TRV Detection Procedures – a Proposition to the International Standards" at Bonneville Power Administration, a power utility and distribution company in Portland, OR  
1996 – 2002 **Master studies** in Electrical Engineering at Swiss Federal Institute of Technology (ETH Zurich and EPF Lausanne)  
1988 – 1996 **Grammar school:** Mathematisch-Naturwissenschaftliches Gymnasium, Basel (specialization on mathematics and natural science)

## Work Experience

2009 – now **Post doctoral research associate** with Center for Advanced Power Systems, Florida State University  
2004 – 2009 **Teaching assistant and scientific staff** at High Voltage Laboratory, Swiss Federal Institute of Technology, Zurich  
2002 – 2004 **Development Engineer** at Technocon AG, Zurich and Basel  
1997 & 1999 **Internships** at Technocon AG, Zurich (1999, 5 months, development of high power frequency converters) and Stoecklin Logistik AG, Dornach (1997, 6 weeks, mechanical work shop)  
1996 – 2006 **Swiss Army military service:** Maintenance specialist for a British surface-to-air missile launcher system (Recruitment in 1996; repetition courses from 1997 until 2006)

## Skills

- **Specialization:** Power electronics, high voltage engineering, thermo- and fluid dynamics, fundamentals and practice on CFD, laboratory and field experience
- **Languages:** German (native tongue), French (fluent), English (fluent), Russian (basics)
- **Software:** The usual tools and programming languages plus ANSYS CFX, Comsol Multiphysics, The MathWorks MATLAB
- **Hobbies:** Paragliding, playing the trumpet in an orchestra, design of audio electronic equipment, photography, personal homepage, organization of youth camps in the Ukraine

## Further Training

**Basic Management Skills**, a 10 days intensive training on the following topics: Communication technique, coaching, meeting management, problem solving, conflict management, self management, organization, process management, practice of leadership. By Dr. Rolf Specht et al.

**Workshop on Didactics**, a 3 day intensive training on the following topics: Teaching and learning at university, communication and social competence in class, practice in teaching. By Dr. Urs P. Meier.

**Introduction to ANSYS CFX**, a 2 day training course on the CFD software package from ANSYS. By Torsten John, CADFEM.

**Basic Life Support** training including automatic external defibrillation, according to the Swiss Resuscitation Council SRC

## Membership

- Member of IEEE<sup>1</sup> Power Engineering Society, since 2002
- Member of Electrosuisse, since 2007

## Publications

### Refereed Publications:

- L. Graber, M. Kudoke: **SF<sub>6</sub> in der Hochspannungstechnik – vom verantwortungsvollen Umgang und einem neuen Monitoringkonzept**, SEV-Bulletin 19/2008.
- L. Graber, T. Karfurke: **Thermal-Network Simulations and Computational Fluid Dynamics for effective Gas Leakage Detection in SF<sub>6</sub> Switchgear**, CIGRÉ Session 2008, Paris, 24-29 August 2008.
- W. Hribernik, L. Graber, J. H. Brunke: **Inherent Transient Recovery Voltage of Power Transformers — a Model-based Determination Procedure**, IEEE Transactions on Power Delivery, Vol. 21, No. 1, pp. 129-134, 2006.

### Unrefereed Publications:

- L. Graber, G. Bonfigli, S. Müller: **Improving SF<sub>6</sub> Leakage Detection in Switchgear by Reducing the Influence of Solar Radiation on Density Measurement**, IEEE International Symposium on Electrical Insulation ISEI, Vancouver, 8-11 June 2008.
- L. Graber, M. K. Pradhan: **Monitoring the SF<sub>6</sub> Pressure Level in Metal-Enclosed Switchgear to Detect Gas Leakages**, International Conference on Condition Monitoring and Diagnosis CMD 2008, Beijing, 21-24 April 2008.
- L. Graber, M. Kudoke: **Alternative Methode zur Leckerkennung in Gasisolierten Schaltanlagen**, GIS-Anwender Forum 2007, Darmstadt, Germany, 10 October 2007.
- L. Graber, M. K. Pradhan: **Gas-Distribution Modeling for the Detection of SF<sub>6</sub> Leakage in Metal-Enclosed Switchgear**, Cigré International Technical Colloquium, Rio de Janeiro, Brazil, 12-13 September 2007.
- L. Graber, A. Djurdjic: **Computational Model of Dynamic SF<sub>6</sub>-Gas Distribution for Early Leakage Detection in Metal-Enclosed Switchgear**, 15th International Symposium on High Voltage Engineering ISH 2007, Ljubljana, Slovenia, 27-31 August 2007.
- L. Graber, B. Wüthrich: **Simulation der konvektiven SF<sub>6</sub>-Strömung zur Leckerkennung in gasisolierten Hochspannungsanlagen**, CADFEM Users meeting 2007, Zurich, Switzerland, 14 June 2007.

## Invited Talk

19 Nov. 2007 at Arsenal Research, Vienna

„Numerische Strömungssimulationen für verbesserte Leckerkennung in Gasisolierten Schaltanlagen“

## Contact Address

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<sup>1</sup> Institute of Electrical and Electronics Engineers, Inc.