

CURRICULUM VITAE



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EDUCATION

- 1999 – 2004 Research Assistant at the Institute for Design und Control of mechatronical Systems, University of Linz, Austria
PhD: Optimal Control of power sources with a storage unit
- 1990 - 1997 Studies of Electrical Engineering at the Technical University of Graz, Austria

WORKING EXPERIENCE

- Since 06/2005 Managing director at Austria Solar Innovation Center (ASiC), Wels, Austria
- 01/2005 – 05/2005 Head of the business unit “Fault Detection and Information Retrieval” of the Linz Center of Mechatronics GmbH (LCM GmbH), Linz, Austria
- Since 09/2003 Part-time teaching in the field of eco-energy engineering at the University of Applied Sciences in Wels, Austria
- 1999 - 2005 Research Assistant at the Institute for Design and Control of mechatronical Systems, University of Linz, Austria
- Head of the internal research group „Automotive Control“
 - Lead of several projects in cooperation with industrial partners
 - Lectures in the field of control engineering

SELECTED PROJECTS

2010 - 2012	Project lead: Model-based control of a hybrid air-heat pump system. Klima- und Energiefonds, Austria
2006 – 2011	Austrian representative: Expert at the International Energy Agency (IEA), SHC-Task 36 “Solar Resource Knowledge Management”
2008 - 2010	Project lead: SolHeat.Net – energy management of the solar assisted district heating grid in Wels, Klima- und Energiefonds, Austria
2004 - 2005	Project lead: scientific-technical cooperation Austria-Italy „Estimation of forces between the wheel and the road by innovative sensors”
2002 – 2004	Project lead: „Direct hydrogen fuel cell for automotive applications and Auxiliary Power Units (5kW)“, A3-Technologieprogramm of the Austrian FFF
2001 – 2007	Project lead: „Computationally effective modeling and control of engine in vehicles and test benches“ in the frame of the Austrian Kplus-Programme, cooperation of the University of Linz, the Linz Center of Mechatronics GmbH and the AVL-List GmbH

PUBLICATIONS

Patent

L. del Re, G. Steinmaurer, E. Grünbacher, P. Langthaler, H. Kokal: „Verfahren zur Einstellung einer Brennkraftmaschine“, Österreichisches Patentamt, Nummer 04450033.8-1236.

Paper

P. J. Rechberger, G. Steinmaurer, R. Reder: „Control Algorithms for Photovoltaic Inverters with Battery Storage for Increased Self Consumption“, SESDE 2013, 25. - 27. September 2013, Athens.

R. Perez, E. Lorenz, S. Polland, M. Beauharnois, G.v. Knowe, K. Hemker Jr., D. Heinemann, J. Remund, S. Müller, W. Traunmüller, **G. Steinmaurer**, D. Pozo, J. Ruiu-Arias, V. Lara-Fanego, L. Ramirez-Santigosa, M. Gaston-Romero, L. Pomares: "Comparison of numerical weather prediction solar irradiance forecasts in the US, Canada and Europe", Solar Energy, August 2013.

R. Hofstätter, H. Focke, **G. Steinmaurer:** „Das Ende des Schattendaseins von solarthermischen Kühlsystemen“, 22. Symposium Solarthermie, Bad Staffelstein, 9. - 11. Mai 2012, Deutschland.

G. Steinmaurer, C. Hofer, H. Dehner, Stefan Katletz, Karin Wiesauer: „Einsatz von

innovativen Sensoren zur Qualitätssteigerung bei der Produktion von thermischen Solarkollektoren", Gleisdorf Solar 2012, 12. – 14. September 2012, Österreich.

G. Steinmaurer, C. Hofer, H. Dehner, S. Katletz, K. Wiesauer: „InSolTec - Qualitätssicherung von solarthermischen Kollektoren durch innovative Sensorik“, 22. Symposium Solarthermie, Bad Staffelstein, 9.-11. Mai 2012, Deutschland.

G. Steinmaurer, H. Focke, F. Lamplmair: „Monolith – Kombination von Hybridkollektor und Luftwärmepumpe mit effizienter Anlagentechnik und innovativen Regelstrategien“, 22. Symposium Solarthermie, Bad Staffelstein, 9.-11. Mai 2012, Deutschland.

S. Hutterer, F. Auinger, M. Affenzeller and **G. Steinmaurer**: „Overview: A Simulation Based Metaheuristic Optimization Approach to Optimal Power Dispatch Related to a Smart Electric Grid“, International Conference on Life System Modeling and Simulation & 2010 International Conference on Intelligent Computing for Sustainable Energy and Environment (LSMS & ICSEE 2010), September 17-20, 2010 in Wuxi, China.

B. Zettl, W. van Helden, D. Jähnig, A. Heinz, M. Monsberger, **G. Steinmaurer**: „Austrian Masterplan Thermal Energy Storage“, EuroSun 2010, Graz.

W. Traunmüller and **G. Steinmaurer**: „Solar irradiance forecasting, benchmarking of different techniques and applications of energy meteorology“, EuroSun 2010, Graz.

E. Lorenz, **G. Steinmaurer**, et. al. "Benchmarking of different approaches to forecast solar irradiance", 24th European Photovoltaic Solar Energy Conference, 21-25 September 2009, Hamburg, Germany.

G. Steinmaurer, H. Dehner, R. Mittasch: "Solarthermische Fernwärmeunterstützung Wels: Rahmenbedingungen, hydraulische Einbindung und Lastmanagement", Gleisdorf Solar 2008.

A. Schrems, K. Pichler, **G. Steinmaurer**, E. Wahlmueller: "Data based modeling for PEM fuel cell monitoring – a test bench application, Part I", IEEE International Conference on Control Applications (CCA), San Antonio, Texas, USA, 2008.

G. Steinmaurer, H. Dehner, R. Mittasch: "Entwicklung des Lastmanagements für eine solarthermische Fernwärmeunterstützung am Beispiel Wels", 18. Symposium Thermische Solarenergie, Bad Staffelstein, 23. - 25. April 2008.

H. Focke, H. Zannantoni, **G. Steinmaurer**: "Solarwärmepumpe - Erhöhung der solaren Deckung durch Systemkopplung", 18. Symposium Thermische Solarenergie, Bad Staffelstein, 23. - 25. April 2008.

H. Focke, F. Helminger, **G. Steinmaurer**, C. Hochenauer, P.Zeller: "Einsatz einer Energiematte als Energiesammler und –verteiler", 18. Symposium Thermische Solarenergie, Bad Staffelstein, 23. - 25. April 2008.

G. Steinmaurer, H. Focke, P. Kefer, H. Zannantoni: "Solaranlage & Wärmepumpe: Kombinieren anstatt konkurrieren", Gleisdorf Solar 2008.

G. Steinmaurer: "The development of the simulation environment for the energy management of the solar assisted district heating grid in Wels", Eurosun 2008, 7. - 10. October 2008, Lisbon, Portugal.

G. Steinmaurer: "Optimale Steuerung von Leistungsquellen mit Zwischenspeicher", VDI-Verlag, ISBN-Nr.: 978-3-18-513008-3, 2007.

H. Focke, **G. Steinmaurer**, „Refrigeration demand ascertainment – a key issue for economic operation of solar cooling systems“, 2nd International Conference on Solar Air Conditioning, Tarragona, Spain, 2007.

G. Steinmaurer, E. Grünbacher: „Datenbasierte Fehlererkennung bei einem Brennstoffzellen-system“, VirtuCell, 2006, Linz.

G. Steinmaurer, L. del Re, „Mild hybrid operation of a 42V vehicle“, SAE World Congress 2005, Detroit, USA.

G. Steinmaurer, „Optimale Steuerung von Leistungsquellen mit Zwischenspeicher“, Dissertation, 2004.

E. Grünbacher, P. Langthaler, **G. Steinmaurer**, L. del Re, H. Kokal, „Adaptive Inverse Torque Control of a Diesel Engine using adaptive mapping update“, SAE World Congress 2003, Detroit, USA.

G. Steinmaurer, „Optimierter Betrieb einer Energiequelle mit Zwischenspeicher“, 13. Steirisches Seminar über Regelungstechnik und Prozessautomatisierung, Schloss Retzhof, 2003.

G. Steinmaurer, L. del Re, „Downsizing Opportunities of Drivelines with a 42V Starter/Alternator“, 42V PowerNet: Stepping into Mass Production, Haus der Technik, 12.-14. November 2002.

G. Steinmaurer, L. del Re, „Development and Use of a Series Hybrid Vehicle Control Strategy for the ADVISOR Simulation Tool“, Proceedings of the Advisor User Conference, Detroit, USA, 2001.

G. Steinmaurer, L. del Re, „Optimal Control of Dual Power Sources“, Proceedings of the 2001 IEEE International Conference on Control Applications, Mexico City.

L. Del Re, **G. Steinmaurer**, N. Hannoschoeck, „Cost effective pollution abatement for SI engines with a 42 board net“, FISITA World Automotive Congress, Seoul 2000.

L. Del Re, **G. Steinmaurer**, „Impact of mechatronics on the configuration and control of passenger vehicles“, INTERCON, pages 32-40, 2000.

G. Steinmaurer, L. Del Re, „Receding horizon suboptimal control for fuel consumption optimization of hybrid vehicles“, Asian Control Conference ASCC, Shanghai 2000.

L. Del Re, **G. Steinmaurer**, „Computation of minimum achievable fuel consumption for serial hybrids“, Future Transportation Technology Conference and Exposition, 1999.