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Professional Experience

- **2006 - Present:** Staff employee at Argonne National Laboratory, Center for Transportation Research
- **2005 - 2006:** Postdoctoral appointee at Argonne National Laboratory, Center for Transportation Research
- **2004 - 2005:** Authorized contact person and Team leader for Graz University of Technology's European Integrated Project "HyICE"
- **2001 - 2004:** Scientific assistant at the Institute of Internal Combustion Engines and Thermodynamics at Graz University of Technology, Engine Research/Combustion Process Department
- **1998 and 1999:** Internship at AVL List GmbH. Department for Flow and Port Development

Professional Society Activities

- Vice-Chair of the Society of Automotive Engineers (SAE) Advanced Power Source Committee
- Session organizer for Society of Automotive Engineers (SAE) at several national and international conferences

Publications & Patents

- Wallner, T.; Nande, A.; Naber, J.: 'Evaluation of Injector Location and Nozzle Design in a Direct-Injection Hydrogen Research Engine.' 2008 SAE International Powertrains, Fuels and Lubricants Meeting. Shanghai/ China. 2008.
- Wallner, T.; Miers, S.; McConnell, S.: 'A Comparison of Ethanol and Butanol as an Oxygenate and Their Effect on Efficiency, Combustion Performance and Emissions of a Direct-Injected 4-Cylinder Engine.' ASME Internal Combustion Engine Division 2008 Spring Technical Conference. Chicago/IL. 2008.
- Wallner, T.; Miers, S.: 'Combustion Behavior of Gasoline and Ethanol in a Modern Direct-Injection 4-Cylinder Engine.' SAE World Congress. Detroit / Mi. 2008.
- Wallner, T.; Gurski, S.; Lohse-Busch, H.; Duoba, M.; Thiel, W.: 'Challenges in Fuel Efficiency and Emissions Measurements for Hydrogen Vehicles.' NHA Annual Hydrogen Conference 2008. Sacramento/CA. 2008.

- Ciatti, S.; Bihari, B.; Wallner, T.: “*Establishing Combustion Temperature in a Hydrogen Fueled Engine Using Spectroscopic Measurements.*” Journal of Automobile Engineering. 2007.
- Wallner, T.; Lohse-Busch, H.; Shidore, N.: “*Operating Strategy for a Hydrogen Engine for Improved Drive-Cycle Efficiency and Emissions Behavior.*” World Hydrogen Technology Convention. Montecatini Terme Italy. 2007.
- Lohse-Busch, H.; Wallner, T.: “*Efficiency Optimized Operating Strategy of a Supercharged Hydrogen-Powered 4-Cylinder Engine for Hybrid Environment.*” JSAE/SAE International Fuels and Lubricants Meeting. Kyoto Japan. 2007.
- Wallner, T.; Ng, H.; Peters, R.: “*The effects of blending hydrogen with methane on engine operation, efficiency, and emissions.*” SAE World Congress. Detroit USA. 2007.
- Wallner, T.; Ciatti, S.; Bihari, B.: “*Assessment of combustion behavior in a direct-injected hydrogen internal combustion engine using an endoscope as well as in-cylinder temperature measurement.*” SAE World Congress. Detroit USA. 2007.
- Wallner, T.; Lohse-Busch, H.: “*Performance, Efficiency and Emissions Analysis of a Supercharged Hydrogen-Powered 4-Cylinder Engine.*” SAE Fuels and Emissions Conference. Cape Town South Africa. 2007.
- Lohse-Busch, H.; Wallner, T.; Fleming, J.: “*Transient Efficiency, Performance, and Emissions Analysis of a Hydrogen Powered Internal Combustion Engine Pick-up Truck.*” SAE Powertrain and Fluid Systems Conference. Ontario Canada. 2006.
- Wallner, T.; Ciatti, S.; Bihari, B.; Stockhausen, B.; Boyer, B.: “*Endoscopic investigations in a Hydrogen Internal Combustion Engine.*” 1st International Symposium on Hydrogen Internal Combustion Engines. Graz Austria. 2006.
- Ciatti, S.; Wallner, T.; Ng, H.; Stockhausen, W.; Boyer, B.: “*Study of Combustion Anomalies of H₂-ICE with External Mixture Formation.*” ASME Internal Combustion Engine Division 2006 Spring Technical Conference ICES2006-1398. Aachen Germany. 2006.
- Wimmer, A.; Wallner, T.; Ringler, J.; Gerbig, F.: “*H₂-Direct Injection – A Highly Promising Combustion Concept.*” SAE-World Congress. Detroit. USA. 2005.
- Wallner, T.; Wimmer, A.; Gerbig, F.; Fickel, H.: “*The hydrogen combustion engine – a basic concept study.*” Symposium “Gas vehicles – The Suitable Answer to the CO₂-Challenge of the Future?” 2004.
- Eichlseder, H.; Wallner, T.; Gerbig, F.; Fickel, H.: “*Mixture formation and combustion concepts for hydrogen internal combustion engines*” Symposium “Future Development Trends for Spark Ignition Engines.” 2004.

- Ringler, J.; Gerbig, F.; Eichlseder, H.; Wallner, T.: *“Insights into the Development of a Hydrogen Combustion Process with Internal Mixture Formation.”* 6th International Symposium on Internal Combustion Diagnostics. 2004.
- Eichlseder, H.; Wallner, T.; Freymann, R.; Ringler, J.: *“The Potential of Hydrogen Internal Combustion Engines in a Future Mobility Scenario.”* International Future Transportation Technology Conference. SAE-Paper No. 2003-01-2267. 2003.
- Eichlseder, H.; Pischinger, R.; Wallner, T.; Wimmer, A.; Pirker, G.; Ringler, J.: *“Thermodynamic examination of SI-engine combustion concepts and fuels as well as their potential.”* Symposium “Future Development Trends for Spark Ignition Engines.” 2002.
- Ringler, J.; Strobl, W.; Schüers, A.; Eichlseder, H.; Wimmer, A.; Wallner, T.: *“Method for operating a combustion engine.”* Patent application. 2003.

Presentations

- Wallner, T.; Ng, H.; Peters, R.: “*Research Engine Data and Vehicle Drive-Cycle Results in Blended Hydrogen/Methane Operation.*” National Hydrogen Association Annual Hydrogen Conference. San Antonio/TX USA. 2007.
- Wallner, T.; Lohse-Busch, H.: “*Research Update: Hydrogen Projects at Argonne National Laboratory*” Hydrogen Internal Combustion Engines 2007 – Where do we go from here?. Los Angeles. USA. 2007.
- Wallner, T.: “*Overview of American and European Hydrogen Research Activities.*” Internal Conference on Safety in Transportation. Benevento Italy. 2006.
- Wallner, T.; Lohse-Busch, H.: “*Light Duty Hydrogen Engine Application Research at ANL.*” Bridging the Technology – Hydrogen Internal Combustion Engines Conference. San Diego. USA. 2006.
- Wallner, T.; Eichseder, H.; Freymann, R.; Ringler, J.: “*The Potential of Hydrogen Internal Combustion Engines in a Future Mobility Scenario.*” Symposium “The Urban Ecological Transport: The Gaseous Fuel Option.” 2003.

Education

- Ph.D., Graz University of Technology, 2004
- M.S., Graz University of Technology, 2001