

## LIST OF PUBLICATIONS

**DR. ALEXANDER RUDOLF**  
– ENGINEERING SERVICES –  
Thermo- & Fluid Dynamics

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Rudolf, A.; A. Jonard; S. Vassoudevane; R. Singh; A. Alluhaidan. Global Assessment regarding the time of tenability - considerations for a metro system: Application to the Riyadh Metro. ISAVFT 2019, Athens.

**Rudolf, A. Slovak road tunnel guideline. Proceedings 5th Intl. Conference on Tunnel Safety and Ventilation. Graz, 2012.**

Rudolf, A. Road tunnel ventilation design in Europe. Seminar Fire Ventilation and the safety of traffic tunnels. Bratislava, Slovak Republic, 2009.

Vardy, A., A. Rudolf and O. Gloth. Inertial, thermal and Mach-number compressibility in railway tunnels. Proceedings 13th Intl. Symposium on Aerodynamics and Ventilation in Vehicle Tunnels. New Brunswick, New Jersey, USA, 2009.

**Rudolf, A. and B. Höpperger. Upgrading and refurbishing ventilation systems in road tunnels - Engineering with conflicting interests. Proceedings 4th Intl. Conference on Tunnel Safety and Ventilation. Graz, 2008.**

**Rudolf, A., O. Gloth and P. Schürmann. Increasing industrial safety and climatic conditions by the use of spray nozzles. Proceedings WTC 2007. Prague, 2007.**

Rudolf, A. and O. Gloth. Flow reversal in road tunnels. Proceedings 12th Intl. Symposium on Aerodynamics and Ventilation in Vehicle Tunnels. Portoroz, Slovenia, 2006.

**Gloth, O. and A. Rudolf. Consideration of density variations in the design of a ventilation system for road tunnels. Proceedings 3rd Intl. Conference on Tunnel Safety and Ventilation. Graz, 2006.**

Schlamp, W., H. Nendzig and A. Rudolf. Control Strategy and Hardware Implementation for flow management by dampers. Proceedings 3rd Intl. Conference on Tunnel Safety and Ventilation. Graz, 2006.

Rudolf, A. and M. Minder. Cooling in a long railway tunnel with large depth of coverage during the fit-out phase of a railway tunnel. Proceedings Intl. Conference "Tunnelling for a sustainable Europe", Chambéry, 2005.

Rudolf, A. and S. Andraess. Fire tests and safety concepts in the Rennsteig tunnel. Proceedings 2nd Intl. Conference on Tunnel Safety and Ventilation. Graz, 2004.

Rudolf, A., A. Peiffer and P.A. Monkewitz. Simulation of flow and CO<sub>2</sub> concentration inside trains coupled with unsteady tunnel aerodynamics. Proceedings 10th Intl. Symposium on Aerodynamics and Ventilation in Vehicle Tunnels. Boston, USA, 2000.

## PROJECT REFERENCES

**DR. ALEXANDER RUDOLF**  
– ENGINEERING SERVICES –  
Fluid Mechanics & Thermodynamics

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**Rudolf, A. Simulation of Compressible Flow Phenomena in the SWISSMETRO Tunnel Network. Proceedings 9th Intl. Symposium on Aerodynamics and Ventilation in Vehicle Tunnels. Aosta, Italy, 1997.**

### Scientific Theses

1998. Dissertation, Ecole Polytechnique Federale de Lausanne (EPFL). "Simulation of compressible flow in a tunnel system induced by trains traveling at high speed".

1996. Ecole Centrale de Lyon (ECL), Ecole Polytechnique Federale de Lausanne (EPFL). "Comparison of systems for active and passive flow bypassing".

1994. University (TH) Karlsruhe / University of Massachusetts at Amherst, USA. "Design of Components for a Central Solar Heating Plant with Seasonal Storage (CSHPSS)".

1992. University (TH) Karlsruhe. "From an idea to the modern science of bionics. A contribution to history, science, theory, and content. "