

Curriculum Vitae – Henning Löwe

Dr. Henning Löwe

WSL Institute for Snow and Avalanche Research SLF
Unit: Snow and Atmosphere - Group: Snow Physics
Flüelastrasse 11
7260 Davos Dorf

Date of birth: 07.05.1973

Nationality: German

Phone: +41 81 41 70 154

Fax: +41 81 41 70 110

E-mail: loewe@slf.ch

ResearcherID: B-6279-2009 (h-index: 21, May 2022)

Education

07 / 1999 – 12 / 2004 Dissertation, Theoretical Physics (with distinction, “Summa Cum Laude”)
10 / 1994 – 06 / 1999 Diploma, Physics (“Sehr gut”)

Positions – current and previous

since 2018 **Group leader**, WSL Institute for snow and avalanche research SLF, Group Snow Physics
08 / 2018 – 10 / 2018 **Visiting scientist**, Université Grenoble Alpes, France
09 / 2009 – 10 / 2009 **Visiting scientist**, University of Alaska, Fairbanks
01 / 2008 – 11 / 2018 **Scientific staff member**, WSL Institute for snow and avalanche research SLF
01 / 2005 – 12 / 2007 **Postdoc**, Swiss Federal Institute for Snow and Avalanche Research SLF
07 / 1999 – 12 / 2004 **Research associate**, University of Göttingen

Boards, Panels

since 2016 **Member**, WSL Research commission
since 2015 **Review Editor**, Frontiers in Earth Science, Cryospheric Sciences
2015 – 2019 **Member**, COST action *HarmoSnow* (Management Committee Substitute)
2013 – 2017 **Science Officer Snow**, Division on Cryospheric Sciences, European Geoscience Union
2012 – 2016 **Co-Chair**, IACS Working Group *MicroSnow*
since 2009 **Session convener**, AGU’s, EGU’s, IUGG’s
since 2005 **Reviewer**, *Funding Agencies*: ANR; NSF; FWF; CSNA-PNRA; INACH; + Journals

Awards

2013 Excellence in reviewing, Cold Regions Science and Technology
2005 Award of the Berliner–Ungewitter-Stiftung for outstanding dissertations, Faculty of Physics, University of Göttingen

Patents, Licenses

2018 G. Picard, M. Sandells, H. Löwe, *Snow microwave radiative transfer model*, Licensed under GNU LGPL, (<https://www.smrt-model.science/>)
2012 E. Seta, T. Nakai, M. Schneebeli, D. Szabo, H. Loewe, M. Heggli, F. Hempel, M. Jaggi, and J. Graupeter, *Method for predicting tire performance and method for designing tire*, Patent WO/2012/011551

Teaching

since 2012 ETH Zürich (DERDW), Lecturer, *Snowcover: Physics and Modeling*

Approved funding

| | |
|------|---|
| 2021 | IPEV (Collaborator , Campaign Dome C) <i>Snow properties evolution in a changing climate in Antarctica</i> |
| 2020 | WSL Call for innovative Projects, (PI , Total: 60 kCHF) <i>Unification of snow, firn and ice densification</i> |
| 2020 | WSL Large Investment Call, (PI , Total: 225 kCHF) <i>X-ray tomography scanner</i> |
| 2020 | ESA (Sub-Contractor , Total: 26 k€) <i>SCANSAS</i> |
| 2020 | ESA (Sub-Contractor , Total: 50 k€) <i>AKROSS</i> |
| 2018 | ESA (Sub-Contractor , Total: 33 k€) <i>SnowLab</i> |
| 2018 | WSL Call for innovative Projects, (PI , Total: 65 kCHF) <i>The quest for contrast: Casting snow for X-ray tomography analysis</i> |
| 2018 | Swiss National Science Foundation, (PI , Total: 550 kCHF) <i>Unifying metamorphism, heat and mechanics for microstructure-based snow modeling</i> |
| 2017 | IPEV (Collaborator , Campaign Dome C) <i>Snow properties evolution in a changing climate in Antarctica</i> |
| 2015 | ESA (Sub-Contractor , Total: 199 k€) <i>Microstructural Origin of Electromagnetic Signatures in Microwave Remote Sensing of Snow</i> |
| 2012 | ESF (Co-Organizer Total: 7.3 kCHF) <i>Snow Grain Size Workshop - Measurements and Applications</i> |
| 2012 | Swiss National Science Foundation (Co-PI , Total: 325 kCHF) <i>Snow dynamics: From microscopic experiments to macroscopic applications via dedicated mean-field modeling</i> |
| 2010 | Swiss National Science Foundation (PI , Total: 146 kCHF), <i>Evolution of density fluctuations of snow under the influence of external stress and surface energy induced coarsening</i> |

Supervision (as main supervisor)

| | |
|---------------------|--|
| Kavitah Sundu | <i>TBA</i> , PhD , EPFL, 2023 |
| Anna Karpova | <i>TBA</i> , PhD , EPFL, 2023 |
| Therese Obrist | <i>Modelling the impact of metamorphism on the distribution of stable water isotopes in snow using FiPy</i> , MSc , ETHZ, 2021 (Prof. Heini Wernli) |
| Carolin Willibald | <i>Ice spheres in snow mechanics: microstructural analyses, experiments, and simulations</i> , PhD , ETHZ, 2021 (Prof. Jürg Dual) |
| Mirte van der Eyden | <i>Discrete element simulations of micro-penetration in cohesive granular materials</i> , MSc , University Amsterdam, 2017 (Dr. Edan Lerner) |
| Quirine Krol | <i>Upscaling the evolution of snow microstructure: From 4D image analysis to rigorous models</i> , PhD , EPFL, 2017 (Prof. Michael Lehning) |
| Severin Mösinger | <i>Analysis of microscopic strain fluctuations in snow deformation from X-ray tomography data by digital volume correlation methods</i> , MSc , ETHZ, 2014 (Prof. Walter Steurer) |
| Stefan Schlee | <i>X-ray microtomography analysis of isothermal new snow densification</i> , PhD , ETHZ, 2014 (Prof. H. Herrmann) |
| Sebastian Fritschi | <i>Force correlations in micro-penetration of snow</i> , MSc , ETHZ, 2012 (Prof. H. Herrmann) |
| Nora Helbig | <i>Application of the radiosity approach to the radiation balance in complex terrain</i> , PhD , University of Zürich, 2009 (Prof. W. Haerberli) |
| Maxime Govaerts | <i>Droplet spreading on the quasi-liquid layer of ice</i> , MSc , EPFL, 2008 (Dr. Alain Jacot) |