ACINN Graduate Seminar, Innsbruck University
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Introducing Unicorn: Extending turbulence similarity theory to complex terrain

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Turbulence in the atmospheric boundary layer over complex terrain is known not to follow Monin-Obukhov similarity theory (MOST) developed for flat and horizontally homogeneous terrain. The scaled data show large scatter and scaling curves are observed to be site-specific. Should we give up on MOST and keep our fingers crossed that quantum computing will allow DNS for operational purposes? Or is there hope for bringing MOST into 21st century and allow it to embrace complexity?

In this talk I will introduce the Unicorn project exploring if a universal scaling is indeed achievable in complex terrain and show the recent results that seem to convincingly say that the answer is yes, if we can quantify the degree of turbulence anisotropy.

[1] https://www.uibk.ac.at/acinn/graduate-seminar/index.html.en