

Eurac Research is looking for **athletes** for a study

How does respiratory performance change after intense exercise in the cold and at high altitude?

Breathing large amounts of cold air in a short time, as during winter sports, can irritate the airways and cause a transient reduction in respiratory function. This phenomenon is known as exercise-induced bronchoconstriction and may also be accompanied by respiratory symptoms such as cough. It is not known whether breathing thin air, typical of high altitude, may amplify this phenomenon. We want to test this hypothesis during high-intensity treadmill running in our hypobaric and climate chamber, terraXcube.

WHO CAN PARTICIPATE?

Female and male athletes aged 18 to 40 years

- practising endurance, team, or winter sports,
- experienced in short, intense endurance efforts (e.g., middle-distance running),
- experienced in correctly performing spirometry (lung function tests),
- currently capable of running at least one of the following times:

Distance	Men	Women
1,000 m	3:20	3:40
1,500 m	5:10	5:40
3,000 m	11:00	12:00
5,000 m	19:00	20:45
10,000 m	39:30	43:00
21 km	1:27:00	1:35:00

WHAT DOES PARTICIPATION INVOLVE?

The study involves three visits. The first includes medical screening, an incremental treadmill test and familiarisation with the procedures. The other two visits consist of a short, intense 8-minute running test in the cold, at -15°C , once in Bolzano and once at a simulated altitude of 3,000 m. Before and after this effort, you will perform serial spirometry tests and complete questionnaires on respiratory symptoms.

Participation is voluntary and unpaid, but you will be able to receive data on your physical and respiratory performance both at sea level and at altitude.

WHEN AND WHERE?

Period: the experimental sessions will take place in June 2026, approximately 3 days apart. Each session will last about two hours.

Location: terraXcube, NOI Techpark, Via Ipazia 2, Bolzano.



For more information

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To allow us to process your data in a manner that complies with the law, please read the notice below and add it to your application email:

"I have read and understood the privacy statement at www.eurac.edu/en/institutes-centers/institute-of-mountain-emergency-medicine/pages/study-participation and consent to the processing of my personal data in accordance with EU Regulation No. 2016/679 and national legislation for the administration of the application process."