

Eurac Research is looking for **participants** in a physiological study

HOW DO HIGH ALTITUDE AND TEMPERATURE AFFECT BLOOD PRESSURE?

Daily activities, such as postural changes or exercise, can alter blood pressure. In these cases, short-term control mechanisms as the arterial baroreflex intervene to correct pressure variations and prevent fainting. Both altitude and ambient temperature are known to influence these regulatory mechanisms. However, their combined effect remains poorly investigated. Understanding their interaction is becoming crucial, especially in the light of global warming, which is greatly affecting mountain regions and exposing them to increasingly frequent and intense heat waves. With this study, the mechanisms of short-term blood pressure control will be investigated inside the environmental simulator terraXcube at a simulated altitude of 2,500 m in combination with temperatures ranging from cool (15 °C) to hot (35 °C).

WHO CAN PARTICIPATE?

Healthy, non-smoking participants between 18 and 45 years of age.

WHAT DOES PARTICIPATION INVOLVE?

Volunteers will undergo five separate visits. Medical and physical assessments will be carried out during the first meeting. The successive four meetings will take place inside the terraXcube. Each session will last about 4 hours during which time participants will be exposed to a simulated altitude of 2,500 m whilst also experiencing temperatures of 15 °C and 35 °C, twice. In addition, participants will undergo arterial pressure challenge tests. These tests will include rapid posture changes and static and dynamic exercise on a cycle ergometer. Non-invasive physiological parameters will be continuously monitored and will include blood pressure, heart rate, skin temperature and respiratory activity.

WHEN AND WHERE?

Timeline: between March and August 2026.

Individual schedule: Each volunteer will complete the four tests in March, April, July, and August.

Location: All sessions will be held at terraXcube, NOI Techpark, Via Ipazia 2, Bolzano, Italy.



FOR MORE INFORMATION

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