

# New arrivals at remotest base on Earth – will you be next?

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Concordia research base in the Antarctic. During summer aircraft take off on an almost daily basis. Concordia is a hubbub of activity as researchers from disciplines as diverse as astronomy, seismology, human physiology and glaciology descend to work in this unique location. For the rest of the year, around 14 crewmembers remain to keep the station running during the cold, dark winter months. ESA sponsors a research medical doctor in Concordia to study

the effects of living in isolation. The extreme cold, sensory deprivation and remoteness make living in Concordia similar to living on another planet. Credit: ESA/IPEV/PNRA–E. Kaimakamis

The next medical doctor to spend a year at the Concordia research base in Antarctica arrived this week by aircraft. Carole Dangoisse from Belgium will live and work at the station conducting space research on and with the rest of the Italian–French crew as they spend the winter in isolation.

With temperatures as low as  $-80^{\circ}\text{C}$ , no sunlight for four months and no access at all during the winter, Concordia is one of the most remote and isolated human outposts. Its unique location and [extreme conditions](#) offer ESA the chance to research how humans adapt to living far away from home – similar to an outpost in space or on another planet.

Carole will work on experiments looking at bone health, how the immune systems adapts to the extremes and how to assess mood in team dynamics, among others.

Knowing how someone feels is important for mission controllers. However, ask someone how they feel and they will never reply objectively. The Capa experiment will assess mood by analysing speech patterns such as tone of voice, intonation, use of grammar and speed of speech. Crewmembers will regularly record a video diary of their lives in Concordia as well as narrate a paragraph from a fairy tale.

By looking at changes in the way they talk into the camera and comparing these with results from standard questionnaires, researchers hope to develop software that can analyse speech automatically.

Carole is replacing Floris van den Berg, who has spent the last year in Antarctica. Floris is handing over the experiments to Carole and explaining the protocol as he prepares to leave next month.

ESA's Jennifer Ngo-Anh explains: "The research doctor in Concordia is like an astronaut on the International Space Station for ESA – she or he conducts experiments for the researchers in Europe and collects the results for analysis."

## **Call for next year's volunteers**

ESA is looking for the next research doctor to run experiments in this unique setting. Do you have a medical degree and a sense of adventure? Sign up through the [link](#), an ESA [member state nationality](#) is required.

Provided by European Space Agency

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