

MEMORANDUM OF UNDERSTANDING

Towards a European Ultralow-Temperature Laboratory



**European
Microkelvin
Platform**

Research at the ultralow-temperature frontier approaching absolute zero has long been a powerhouse of ideas in physics and beyond. Physics at these temperatures, however, demand elaborate large-scale infrastructures which are difficult to build and maintain by a single university group. Over the past two decades several groups in Europe have established large-scale cryogenic facilities which are unique in the world. Today, counted among these laboratories are the world leaders in the fundamental physics of quantum fluids and solids, and of nanoscience at ultralow temperatures. In order to preserve and further develop these special and complementary infrastructures we hereby collectively agree to establish the united European Microkelvin Platform (EMP).

In the first step towards a unified European ultralow-temperature laboratory-without-walls the European Microkelvin Collaboration (2008-2013) established close collaboration between leading European ultralow temperatures laboratories with the aim of developing together a unified infrastructure and of opening up the microkelvin temperature regime to nano-science. Within this project three laboratories, Aalto University, CNRS Grenoble and Lancaster University provided transnational access for external workers to use their facilities and joint research projects among all the Microkelvin partners were undertaken.

As a further step in this ever-closer collaboration we undertake to establish formally the European Microkelvin Platform as a distributed infrastructure with collective and complementary instrumentation.

This European Microkelvin Platform will

- offer Europe-wide open access to its unique facilities. An independent scientific selection panel will guide the access policy and referee applications.
- operate as a close, formal and equal collaboration between the individual units ensuring the greatest flexibility and encouraging the maximum cooperative and innovative potential.
- allow individual partners of EMP to work closely together to develop new instrumentation and new cryogenic technique, to collaborate in post-graduate education and to establish a flexible programme for the exchange of scientists, students and technicians between the partners.
- charge the partners to undertake joint research projects and to have regular collaboration meetings. The members will discuss and decide on a common research roadmap for microkelvin physics on a regular basis. This roadmap will be published in a scientific journal.
- authorize the members of the EMP to administer jointly European funding for maintaining and developing the component infrastructure, as well as for international access, scientific exchange and joint research projects.

The laboratory heads below, having signed this memorandum of understanding, shall hereby constitute the European Microkelvin Platform and hereby express their common purpose in applying for funding for this distributed infrastructure under the umbrella of the European Framework Programme, HORIZON 2020.

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(Universität Basel)

Dr. Henri Godfrin
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Professor Christian Enss
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