**Application to participate in Quantum Computing in STEM Education (2024-2026)**

**Background of the project:**

The field of quantum computing is relatively new but has been developing rapidly in the last decades. Quantum computers are expected to have significant impacts on our future world by accelerating innovation. But how do quantum computers work and how can you teach what quantum computing is about in school? The complexity of the subject and the lack of tried and tested teaching ideas on how teachers can implement this topic often means that it hardly plays a role in the classroom.

This is where our project comes in. In a first important step we want to train teachers on the subject of quantum computing. Subsequently, STEM teachers will develop concrete concepts on how to implement this rather complicated topic in the classroom.

**Application process:**

20 physics, mathematics or computer science teachers can take part and work in teams for about two years. Please note that if you are selected, participating in two face-to-face meetings (two days each from Friday, 15:30 to Sunday, 12:00) on either 26-28 January 2024 **or** 16-18 February 2024 (teacher training) and in spring 2025 is mandatory. The project is organised by Science on Stage Germany and supported by the Wilhelm und Else Heraeus foundation. All travel and accommodation costs and food will be covered. Please send this document back by 11 October 2023 to d.neumann@science-on-stage.de. We are looking forward to your application! As the number of participants is limited to 20, the time of receipt of the application will also be taken into account. If you are interested in participating in the project, we recommend applying soon.

You find more information about the project at [www.science-on-stage.eu/quantum-computing](https://www.science-on-stage.eu/quantum-computing)

**Application form**

First name:

Last name:

Email:

School:

Country:

Phone number:

Subjects you teach:

Age group of the students you teach:

**Did you come across quantum computing or quantum mechanics in your studies or further professional development training? If yes, where, and when? What was the (teacher) training, course etc. about?**

**Do you have any experience in one or more of the following topics?**

[ ]  I don’t have a lot of experience in these topics, but I am very interested and motivated to learn.
[ ]  working with quantum computers
[ ]  quantum entanglement
[ ]  superposition principle
[ ]  interference
[ ]  algorithms
[ ]  qubits
[ ]  complex numbers and calculating with matrices
[ ]  prime factor decomposition
[ ]  cryptography
[ ]  quantum circuits
[ ]  quantum Turing machine
[ ]  others

**If you selected “others”, please specify.**

**Do you have any experience with the topic of quantum computing? If yes, what kind of? Please describe briefly what you have done with your students (e.g. experiments).**

**Do you know good examples/resources about teaching quantum computing in STEM classes? If yes, please name the links.**

**The distribution of the outcome of the project is very important for teachers across Europe to profit from it. Are you willing to present your project, e. g. by conducting teacher workshops, webinars or in events at your school?**

**Are you in contact with Science on Stage in your country? If yes, how (e.g. participation in national activities) and with whom?**

**Why would you like to be part of this project? (maximum 1.000 characters):**

The conference language is English. I herewith confirm that:

☐ I am able to understand the main points of clear texts in standard language if they are about topics with which I am familiar, whether in work, study or leisure contexts.

☐ I can cope with most of the situations that might arise on a trip to areas where the language is used.

☐ I am able to produce simple, coherent texts about topics with which I am familiar or in which I have a personal interest.

☐ I can describe experiences, events, wishes and aspirations, as well as briefly justify opinions or explain plans.

☐ I hereby consent to the collection and use of my personal data for the participation in this project, according to the European General Data Protection Regulation (GDPR) and the German Federal Data Protection Act (BDSG 2018).

The data you provide will be collected, processed, used and stored by Science on Stage Deutschland e. V. for the creation of the participation certificate, the hotel booking, participation lists and for the follow-up of the event. After the end of the project, your data will be archived anonymously for statistical purposes.

The general data protection regulations of Science on Stage Deutschland e. V. (https://www.science-on-stage.de/datenschutz) apply. You can revoke these consents at any time with effect for the future by sending an email to info@science-on-stage.de.

☐ I declare that all the information given in this application is correct and is given in good faith.

**Thank you very much for your application! We will get back to you by early November 2023.**