QClass23/24 Sponsorship offer

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QWorld (Association) is a non-profit global organization that brings quantum computing researchers & enthusiasts together. Our main goal is to popularize quantum technologies and software. Through education and skill development opportunities, QWorld is training the next generation of quantum scientists, engineers, and software developers. QWorld is a network of local groups in 28+ countries across the world, having organized more than 190 events and programs with more than 9000 diplomas/certificates handed out.

QClass23/24

We are looking for partners for our newest program QClass23/24.

QClass23/24 is a free & fully-virtual quantum class from Sep 2023 to May 2024. We expect to have globally around 2000 students (starting from high school) and working people. We have activities for both beginners and quantum researchers. *Please check the appendix for the profile of applicants until now.*

We are bringing highly motivated and dedicated students to our class to learn the basics for a solid start to quantum computing & programming and then dive deeper with more advanced topics. Our partners will benefit from communicating & working with them. We, as QWorld, are already covering the basics. Thus, the class will be ready for our partner's activities. Below you will see the base program of QClass, and we hope to expand it with partner activities beneficial for both our partners and students.

The base program
- QCourse101-1: Fundamentals of Quantum Computing & Programming (3 ECTS, undergraduate level, 14 weeks from Sept 11 to Dec 17)
- QCourse104-1: Introduction to Quantum Algorithms (3 ECTS, undergraduate level, 13 weeks from Feb 5 to May 5)
- Self-study module "Quantum Key Distribution", 4 weeks in Dec & Jan
- Self-study module "Quantum Error Correction", 4 weeks in May
- Self-study module "Quantum Annealing", 4 weeks in May
- Self-study module "Topological Quantum Computing", 4 weeks in May
- QJam2023 "Quantum Games", 6 weeks in Dec & Jan

The activities with partners (confirmed)
- Hands-on Quantum Algorithms Development with Classiq (certified mini workshop)
- QCourse551-1 "Quantum Software Development with Classiq" (6 ECTS, graduate level, 16 weeks, from Sep 26 to Jan 23)
- Invitation to CLASSIQ Quest bootcamp & hackathon

We invite you to check sponsorship benefits (after the next section) and then schedule a meeting to discuss the best way of collaboration.

Remark that only QWorld offers the unique combination of
- Global, fully-virtual, free
- Linked to actual courses (in collaboration with University of Latvia)
- Certification with grading
- Open-sourced self-contained hands-on notebooks for every lecture
- Live and recorded lectures & labs
- Regular mentoring support at the class server
- Exercises for practicing and quizzes & exams for evaluation

QCourse511

Previously, we taught two graduate-level QCourses (6 ECTS) on Quantum Computing and Programming (QCourse511-1 & QCourse511-2) in Autumn 2021 & Autumn 2022. More than 200 students from different parts of the world passed them. 30+ term projects were completed in the first edition, and our self-study modules were taught for the first time in the second edition.

Here are testimonials from our students.

Malihe Yadavar, PhD student at Amirkabir University of Technology, Tehran Polytechnic

"The QCourse511-1 program was my first learning experience in #QuantumComputing. Although I had no prior background in quantum computing, this course prepared me to participate in various international QC events such as summer schools, hackathons, and internships. During the period, all aspects of Quantum Computing such as theory and mathematics are well covered by Abuzer Yakaryilmaz in the lecture sessions and programming skills in the lab sessions. The course was very instructive and I really enjoyed it. I would like to thank the QWorld team for organizing such a fantastic program and suggest you attend QClass23/24."

Alex Stephane Piedjou, Università degli Studi di Salerno

"My quantum journey started with the course that is provided by QWorld on quantum computing and programming. It has been one of the most amazing online courses I have ever taken. From the staff (including lecturers and mentors) to the students, everyone I interacted with was very friendly, helpful, and encouraging. The course provided a great depth of knowledge and a solid introduction to such a new and broad field. It gave me an excellent foundation to pursue a career in this field."

Alvaro Gomez, Universidad de Buenos Aires

"I previously passed QWorld's QSilver (with a good 89/100 grade), and also IBM QGSS'21 with Quantum Machine Learning (graded 100/100), and also I participated in QIntern 2021 doing

quantum programming (Aritra Sarkar's Project, 3rd project prize), but only now with this course, I am getting a deep understanding of the most important quantum computation concepts. Probability and geometrical issues are very well covered! The fact of using the unit circle first, instead of going directly to the Bloch Sphere, is an extraordinary educational resource, because with real numbers geometric concepts are better understood, which with complex numbers are darker and difficult to visualize. So, I am very happy with this QCourse-511. Although I don't have much time to dedicate to it, I will try to complete all my homework and the final project. Thank you very much for all your effort and congratulations a lot!"

We also collected several comments through our feedback form.

- "The course was very well structured. The lectures were comprehensible and the notes shared were informative. Exercises and quizzes were well-designed to test the understanding of the corresponding topics."
- "Really, this course surprised me. I think it was a very good experience for me and I learned not only quantum mechanics but also the technology tools for making a good course online."
- "The mentors were really supportive during the entire course."
- "Notebooks were very well explained."
- "I like to know the theoretical foundations behind things whether it's programming or core physics. The theoretical explanations of concepts were very good in the modules."
- "The labs were useful and the part where we solved the exercises were most helpful to not feel stressed for exams."
- "I had very basic experience with Qiskit prior to this. So I didn't really have much expectations. Maybe I was doubtful if I would be able to understand the course or not as this was my first course but the outcome was very good."

Sponsorship

Here we list several benefits for our potential partners. Based on them, we would be happy to discuss customized activities to find the best way to have you in QClass23/24.

By default we will put the logo & company profile of each sponsor on our website, and we make dedicated social media posts.

For certified events, we define some thresholds (e.g., 60%) to earn the certificate. We can also define certain criteria for selecting the participants or put some limits on their numbers.

Activity	Sponsorship amount
A dedicated channel on the QClass23/24 Discord server to communicate with the class directly	500 USD
An online talk during QClass23/24 to introduce your technologies or recent progress	500 USD
A certified activity for QClass23/24 students, expecting up to 5 hours involvement, such as introducing a quantum framework, platform or technology followed by some assignments to earn a certificate	10 USD per certificate

A certified activity for QClass23/24 students, expecting around 10 hours involvement, such as a coding challenge	20 USD per certificate
A certified self-study module* for QClass23/24 students, expecting around 20 hours involvement	40 USD per certificate

[*] A self-study module team should have at least one lead (instructor) and one mentor, who should provide a self-contained tutorial, 3+ recording lectures, 3 online Q&A sessions, 3 online quizzes for practicing, and another 3 online quizzes for evaluation.

Schedule a meeting with our QClass coordinator Abuzer Yakaryilmaz via QClass@QWorld.net

Appendix "QClass23/24 Applicant/Student Profile"

The number of unique and valid emails through the application form: 2148
The number of students joined the QClass23/24 discord server: 1336

We received 2167 applications from 103 countries. Here is a summary about our applicants (based on their answers).

Primary area of study:
- Physics: 40%
- Computer Science: 30%
- Engineering: 17%
- Mathematics: 6%
- Others: 7%

Secondary area(s) of study or interest (multiple options):
- Computer Science: 48%
- Mathematics: 46%
- Physics: 32%
- Engineering: 24%
- Philosophy: 9%

Professions:
- Student: 73%
- Working/having on a company: 16%
- Having academic title/senior researcher: 7%
- Postdoc: 6%
- Teacher: 7%

Student levels:
- Undergraduate: 52%
- Master: 26%
- PhD: 10%
- High School: 9%

Are you knowledgeable in quantum or a beginner?
- I am a researcher working on some quantum topics: 17% (≈ 400)
- I have successfully completed some quantum courses: 36% (≈ 800)
- I have checked some internet resources or videos: 37% (≈ 850)
- Beginner: 40% (≈ 910)

From which level are you willing to get QCourse certificates?
- Undergraduate level: 54%
- Graduate level: 46%

The number of applicants from different countries:
- >100: India, Pakistan, Turkey, Egypt
- 40-99: Algeria, Mexico, Nigeria, United States, Ghana, Bangladesh
- 10-39: Iran, Argentina, Cameroon, Peru, Brazil, Nepal, Latvia, Czech Republic, Germany, Indonesia, Spain, Poland, Canada, Tunisia, United Kingdom, Italy, Colombia, Greece, Morocco, Philippines, Ethiopia, South Africa, Sri Lanka
- <9: Netherlands, Singapore, China, Iraq, Vietnam, France, Sweden, Ecuador, Saudi Arabia, Venezuela, United Arab Emirates, Malaysia, Ukraine, Russia, Bulgaria, New Zealand, Switzerland, Eswatini, Palestine, Belgium, Cyprus, Australia, Guatemala, Kenya, Austria, Taiwan, Denmark, Rwanda, Panama, South Korea, Cote D'ivoire, Benin, Qatar, Hungary, Uganda, Senegal, Tanzania, Finland, Zimbabwe, Romania, Zambia, Sudan, Bolivia, Uzbekistan, Croatia, Paraguay, Serbia, Kazakhstan, Lesotho, Mauritius, Yemen, Papua, New Guinea, Mauritania, Namibia, Liberia, Costa Rica, Chile, Lithuania, Azerbaijan, Montenegro, Botswana, Portugal, Ireland, Swaziland, Malawi, Bahrain, Hong Kong, Burkina Faso, Estonia, Bosnia and Herzegovina