

Qiskit

Global Summer
School 2021

CONGRATULATIONS

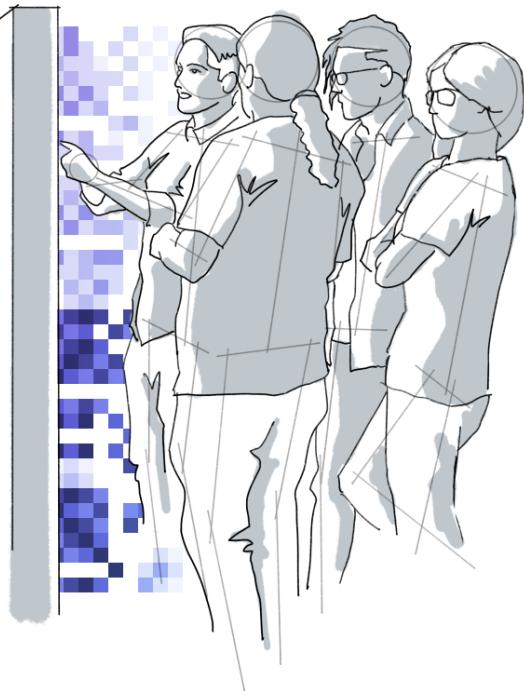
WELCOME MENTORS!

Index

Early Access Recap	3
What's Next	4
Mentors	5
Community Management	7
Points of Contact	10
Ways to Contribute	11
Global Course Schedule	12
FAQ	14
Congratulations!	15
Q&A	16

Early Access Summer School

Hosted prior to the Global Summer School, this summer school served a dual purpose of providing a **full dry-run and module testing** prior to global launch and usage on a premier event level, while also providing **full early-access to internal community networks**. Not to mention **top-notch quality mentors** with practiced familiarity with all the content and exercises!



Feedback & Insights

Key Improvements for Global

- Lab feedback and improvement
- Link and access troubleshooting
- Content reviews, edits, & contributions

What's Next?

**The Qiskit Global Summer School will be kicking off on Monday, July 12th at 10:30 AM EDT
with an exciting presentation from Amira Abbas and Jay Gambetta.**

The Global Summer School will be hosting 5 thousand students from 100+ countries around the world – and a majority of these students are new to Quantum Computing and have not participated in previous Summer Schools or content. This will be an exciting opportunity to welcome thousands of new members to our community, and empower them with this collaborative learning experience.

These students will be joining you on the Discord server for the course on Wednesday, July 7th.

Keep an eye on your email for updates and communication in the meantime!

Key Changes & Updates



Attendee Guide & Links

A new attendee guide will be distributed to students on July 7 – note that most (if not all) links will change!



Live Q&A Sessions

Lectures will be followed by a live on-screen Q&A session with speakers. This does not apply to lab overviews.



Lab & Discord Access

As students join Discord and gain access to labs – there will be new steps to confirm access. Updates to follow soon!

Mentors

Mentors are the main pillar of the Summer School, critical to the success of the course and the learning experience of thousands of students. Mentors provide hands-on support and insights to students and newcomers to Quantum Computing around the world, while promoting and fostering a passionate community around learning quantum.

Now that the early access summer school has concluded, we ask all mentors to take a moment and confirm your information and availability for supporting the incoming students at the Global School.

Discord & Crowdcast Chat Lab Support

- Maintain general availability within schedule times to provide direct and indirect study group support
- Be aware of study groups within time zone
- Proactively reach out or “drop in” on active study groups to build connections, provide support, and answer any questions

Discord General Support & Insight

- Maintain engagement and activity in Discord
- Facilitate connections between students
- Ensure questions are supported in timely manner
- Escalate any CoC violations or inappropriate conduct to admins

Discord Communication & Support

Be professional & polite

Make people feel comfortable to ask for help

How can I help you? Thank you for your question. I will have a look into that and get back to you.

Avoid “Sliding into DMs”

Move questions to dedicated channels

Trust us, SO MANY DMs WILL HAPPEN – and your answer can help others!
If a question has been answered before, you can refer to that conversation

Make sure you understand (and answer) the question

Don't be afraid to ask for clarification

Did this answer your question? Could you please rephrase your question?
Would you mind elaborating more?

Know what you know and know what you don't know

Don't answer questions you don't know the answer to

Introduce yourself in the #introductions channel

Let people know you are a mentor & encourage them to ask their questions!

Be aware of diversity & cultural differences

Be gracious & flexible

Community Management

The IBM Quantum Community Code of Conduct is available for download and review online.

We appreciate everyone's support in our collective mission to promote and encourage an inclusive and welcoming global quantum community and ask that any observed code of conduct violations or inappropriate behavior are reported to event admins or via the Code of Conduct reporting form.

Moderation

If inappropriate behavior or conduct is seen, reply to the content with a link to the code of conduct with a message along the lines of “We wanted to take this opportunity to remind everyone of the Code of Conduct/Event Norms - and appreciate everyone’s enthusiasm and excitement during this event!” or simply use the !codeofconduct command.

When in doubt, discuss with teammates! If someone is uncomfortable being a public “enforcer”, they should/can notify an admin, an event lead (Josie, Carmen, Anamaria, or Saul) or the mentors, and someone will support and/or message the enforcement.

If something is truly egregious or needs to be deleted or removed immediately, please take a screen capture and immediately escalate to admins who can issue a “formal warning”. If identified as a risk or potential liability, make sure Kallie in case the situation calls for additional follow up or escalation.



Community Management Interaction Guidelines

- Once you "arrive", all mentors will be expected to follow a code of conduct. Everyone supporting the event is expected to behave in an appropriate and respectful manner towards other teammates, players, and attendees.
- Obscene gestures, profanity, and inappropriate displays are strictly prohibited. Mentors and teammates are expected to represent themselves, their team, and IBM with positivity, professionalism, and decorum. All attendees and competitors should be provided the best experience possible, and it is our responsibility to do everything in our power to ensure that.
- We encourage you and all teams to use your social media accounts to share the experience and the excitement of the event with your friends and followers. Please see some guidelines below for some do's and don'ts on how to use social media with your access to the event.

Do!

- Feel comfortable posting photos of your experience!
- Use the official hashtag (#QGSS21)
- Respect the privacy of other team members and staff/teammates

Don't

- Post disparaging or unsportsmanlike content.
- Use obscene or profane content.
- Post, share, or distribute content, recordings, or downloads outside of fellow students
- Initiate or foster negative sentiments and expressions towards/about the event. Feedback should be routed internally or through the Discord #Feedback channel.

Event Norms

BE ENGAGED

Connect with each other, turn your webcam on when you can, & have fun!

BE INCLUSIVE

Use shared language, be empathetic, & be aware of cultures and backgrounds

BE RESPECTFUL

Respect each other & use respectful language

BE POSITIVE

Assume the best intentions, & have forward-looking outlook

BE A TEAMMATE

Lift other voices, actively listen, & think collaboration

BE ACCOUNTABLE

Document & share learnings and resources

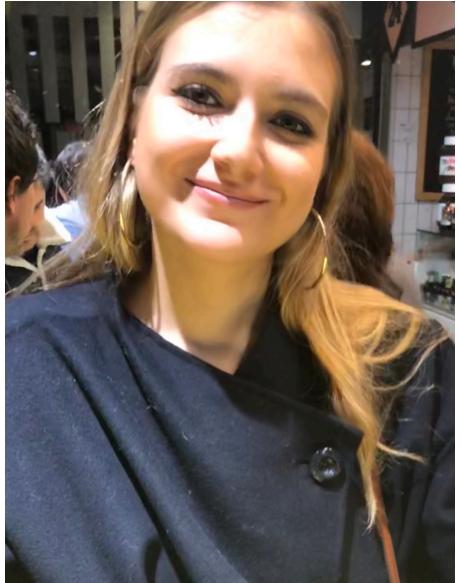
BE HONEST

Trust fellow students, and expect them to trust you, we are all here to learn & have fun together!

BE YOU!!!

Share about yourself and your goals, be real, be genuine, & let yourself be comfortable

Key Points of Contact (for Mentors)



Carmen Recio Valcarce

@Carmen Recio



Josie Kies

@justjosie



Anamaria Rojas

@Anamaria

Other Ways to Contribute...

Identify & Define

Quantum Jargon

Help identify and define common jargon and acronyms in course materials

Review & Cleanup

Lecture Transcripts

Support accessibility by reviewing lecture transcripts and inserting paragraph breaks.

Identify & Create

Descriptions & Prompts

Support student collaboration by creating discussion prompt questions for lectures.

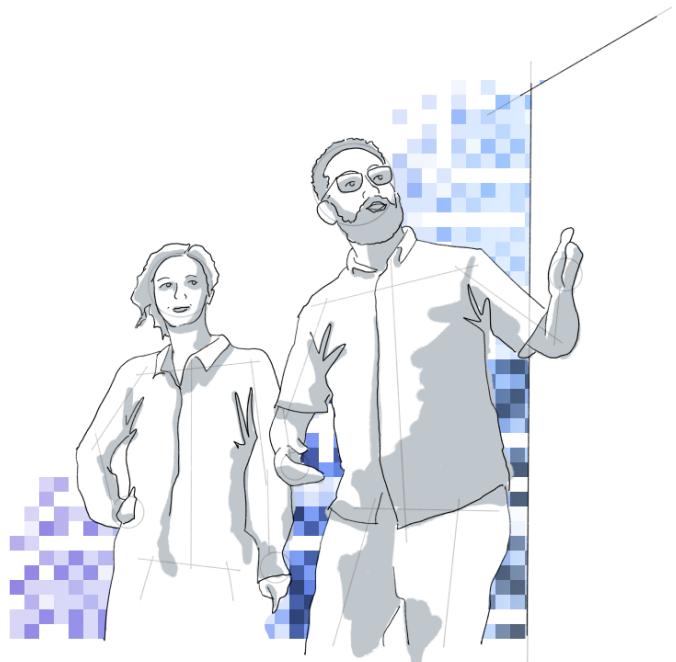
Support & Improve

Discord Server

Help innovate, improve, and maintain the Discord Server, content, and activities.

Interested in Contributing?

Please reach out to Carmen or Josie via Discord!



Schedule – Week 1

JULY 12

Monday

10:30 AM EDT

Early Access Summer
School Welcome & Kickoff

11:30 AM EDT

Lecture 1.1: Vector Spaces,
Tensor Products, and Qubits
Speaker: Elisa Bäumer

2:00 PM EDT

Lecture 1.2: Introduction to
Quantum Circuits
Speaker: Elisa Bäumer

JULY 13

Tuesday

8:00 AM EDT

Lecture 2.1: Simple
Quantum Algorithms I
Speaker: Elisa Bäumer

2:00 PM EDT

Lecture 2.2: Simple
Quantum Algorithms II
Speaker: Elisa Bäumer

2:00 PM EDT

Lab 1: Introduction to
Quantum Computing
Algorithms and Operations
Speaker: Elisa Bäumer

JULY 14

Wednesday

8:00 AM EDT

Lecture 3.1: Noise in
Quantum Computers pt 1
Speaker: Zlatko Minev

11:30 AM EDT

Lecture 3.1: Noise in
Quantum Computers pt. 2
Speaker: Zlatko Minev

2:00 PM EDT

Lab 1: Introduction to
Quantum Computing
Algorithms and Operations
Speaker: Elisa Bäumer

JULY 15

Thursday

8:00 AM EDT

Lecture 4.1: Introduction to
Classical Machine Learning
Speaker: Amira Abbas

2:00 PM EDT

Lecture 4.2: Advanced
Classical Machine Learning
Speaker: Amira Abbas

2:00 PM EDT

Lab 2: Introduction to
Variational Algorithms
Speaker: Johannes Weidenfeller

JULY 16

Friday

8:00 AM EDT

Lecture 5.1: Building a
Quantum Classifier
Speaker: Amira Abbas

11:30 AM EDT

Lecture 5.2: Introduction to the
Quantum Approximate Optimization
Algorithm and Applications
Speaker: Johannes Weidenfeller

2:00 PM EDT

Lab 2: Introduction to
Variational Algorithms
Speaker: Johannes Weidenfeller

Schedule – Week 2

JULY 19

Monday

8:00 AM EDT

Lecture 6.1: From Variational Classifiers to Linear Classifiers
Speaker: Bryce Fuller

2:00 PM EDT

Lecture 6.2: Quantum Feature Spaces and Kernels
Speaker: Kristan Temme

Live Q&A

Following each lecture there will be a live Q&A session with the speakers on screen in Crowdcast. For questions not answered during the lecture live stream, they will be answered there.

Important Note: There are NOT Live Q&A sessions for Labs

JULY 20

Tuesday

8:00 AM EDT

Lecture 7.1: Quantum Kernels in Practice
Speaker: Jen Glick

2:00 PM EDT

Lab 3: Introduction to Quantum Kernels and Support Vector Machines
Speaker: Anna Phan

JULY 21

Wednesday

8:00 AM EDT

Lecture 8.1: Introduction and Applications of Quantum Models
Speaker: Francesco Tacchino

11:30 AM EDT

Lecture 8.2: Barren Plateaus, Trainability Issues, and How to Avoid Them
Speaker: Francesco Tacchino

2:00 PM EDT

Lab 4: Introduction to Training Quantum Circuits
Speaker: Julien Gacon

JULY 22

Thursday

8:00 AM EDT

Lecture 9.1: Introduction to Quantum Hardware
Speaker: Nate Earnest-Noble

11:30 AM EDT

Lecture 9.2: Hardware Efficient Ansatze for Quantum Machine Learning
Speaker: Nate Earnest-Noble

2:00 PM EDT

Lab 5: Introduction to Hardware Efficient Ansatze for Quantum Machine Learning
Speaker: Nate Earnest-Noble

JULY 23

Friday

8:00 AM EDT

Lecture 10.1: Advanced QML Algorithms: Quantum Boltzmann Machines and Quantum Generative Adversarial Networks
Speaker: Christa Zoufal

11:30 AM EDT

Lecture 10.2: The Capacity and Power of Quantum Machine Learning Models & the Future of Quantum Machine Learning
Speaker: Amira Abbas

2:00 PM EDT

Qiskit Global Summer School Commencement & Celebration

FAQ

Will the lectures and labs be recorded? Is live-participation required?

Yes, all lectures, labs, and Q&As will be recorded! You can join live, or watch the content on-demand.

Will the Summer School content be available later in the year?

Like last year, it is a possibility that the Summer School content will be re-packaged and made available later in the year, but it is not guaranteed. Announcements would be made via email and on Twitter should the content be released later in the year, but it's important to note that it will likely NOT be exactly as it is during the live course itself.

How many students are in the Summer School? Why can't we increase that number?

There will be a total of 5k students at the Qiskit Global Summer School in July. The registration is currently closed and at capacity – and that number will not be increased.

One of the pillars of the summer school is providing hands-on global support and mentorship to students and study groups to provide a guided and in-depth experience with Quantum learning. In order to maintain that committed quality, we are restricted by the number of mentors. IBM Quantum queue and processing times, and other logistical factors (like communication and active community management). If we are not able to maintain that committed quality, the Summer School impact could be damaging, and create thousands of negative experiences, impressions, and memories of Qiskit, Quantum Computing, and IBM

Can my friend/student/colleague be added to the Summer School or Discord? No.

Can I download/share this content? No.

ENGAGING **LEARNING** **CREATING** EXPERIENCES
CONNECTING WITH GLOBAL CULTURES AND **DIVERSE** BACKGROUNDS
BUILDING **RELATIONSHIPS** USING SHARED LANGUAGE
INCLUSIVE FORWARD-LOOKING OUTLOOK **EMPATHETIC**
ACCOUNTABLE DOCUMENTING AND **SHARING** PROJECTS
USING **RESPECTFUL** LANGUAGE **LIFTING** OTHER VOICES
GENUINE OPEN ABOUT YOURSELF AND YOUR GOALS
BUILDING TEAM TRUST **CONNECTING** WITH OTHERS
HONEST **POSITIVE** COLLABORATING
ASSUMING GOOD INTENTIONS

BE YOU!

BE COMFORTABLE & **HAVE FUN!**

Q & A

