QEC Summer School Schedule

As of July 4 subject to change.

Week 1

QEC Foundations
Bosonic Code Foundations
Programming QEC Decoders

Time	Activity	Location/Room	Mon	Tue	Wed	Thr	Fri	Sat	Sun
			4	5	6	7	8	9	10
7:00AM - 8:55AM	Breakfast	*Biddle Mansion - Winter Palace/West Terrace*	Students Arrive	Breakfast					Study/Off Breakfast: 7:00AM - 9:30AM Lunch: 12:00PM - 1:30PM Dinner: 6:00PM - 9:00PM
9:00AM - 10:30AM	Lecture I	*New York*		***Meet @ 8:45AM for First Day Logistics*** QEC Foundations Steve Flammia, AWS	Programming QEC Decoders James Wootton, IBM Quantum	Bosonic Code Foundations Shruti Puri, Yale University Arne Grimsmo, AWS	Bosonic Code Foundations Shruti Puri, Yale University Arne Grimsmo, AWS	QEC Foundations Steve Flammia, AWS	
10:30AM - 11:000AM	Morning Tea Break	*Atrium Lobby*		Morning Tea Break					
11:00AM - 12:30PM	Lecture II	*New York*		Bosonic Code Foundations Shruti Puri, Yale University Arne Grimsmo, AWS	QEC Foundations Steve Flammia, AWS	QEC Foundations Steve Flammia, AWS	Programming QEC Decoders James Wootton, IBM Quantum	Bosonic Code Foundations Shruti Puri, Yale University Arne Grimsmo, AWS	
12:30PM - 1:25PM	Lunch	*Biddle Mansion - Winter Palace/West Terrace*		Lunch					
1:30PM - 2:00PM	Q&A Sessions	*Sunnyside*		Q&A Session QEC Foundations Steve Flammia, AWS	Q&A Session Programming QEC Decoders James Wootton, IBM Quantum	Q&A Session Bosonic Code Foundations Shruti Puri, Yale University Arne Grimsmo, AWS	Q&A Session Bosonic Code Foundations Shruti Puri, Yale University Arne Grimsmo, AWS	Q&A Session QEC Foundations Steve Flammia, AWS	
2:00PM - 2:30PM		*Lyndhurst*		Q&A Session Bosonic Code Foundations Shruti Puri, Yale University Arne Grimsmo, AWS	Q&A Session QEC Foundations Steve Flammia, AWS	Q&A Session QEC Foundations Steve Flammia, AWS	Q&A Session Programming QEC Decoders James Wootton, IBM Quantum	Q&A Session Bosonic Code Foundations Shruti Puri, Yale University Arne Grimsmo, AWS	
2:30PM - 4:30PM	Unstructured Time	*N/A*		Unstructured Time/ Office Hours with Admin Team for on-site support	Unstructured Time			Unstructured Time	
4:30PM - 5:00PM	Open Problems, Student Talks, Crazy Ideas	*New York*		Unstructured Time	Unstructured Time	Open Problems - Part I QEC Foundations Steve Flammia, AWS	Introduction to QEC Framework @ 4:00PM Drew Vandeth, IBM Quantum	Open Problems - Part II Bosonic Code Foundations Shruti Puri, Yale University Arne Grimsmo, AWS	
5:00PM - 5:30PM					Introduction to QEC Framework Drew Vandeth, IBM Quantum	Open Problems - Part I Bosonic Code Foundations Shruti Puri, Yale University Arne Grimsmo, AWS	Crazy Ideas Session IDA Rules Drew Vandeth, IBM Quantum	Open Problems - Part II QEC Foundations Steve Flammia, AWS	
5:30PM - 6:00PM	Unstructured Time	*N/A*		Unstructured Time					
6:00PM - 6:55PM	Dinner	*Biddle Mansion - Winter Palace/West Terrace*	4th of July Event @ Duke Terrace	Opening Dinner @ Mary Duke Ballroom Opening Remarks Zaira Nazario, IBM Research	Dinner	Social Event: Women in Quantum Social & Dinner @ West Terrace	Dinner		
7:00PM - 8:00PM	Guest Lectures/Social Time	*New York*		Keynote Speaker, Daniel Gottesman, UMD Mary Duke Ballroom	Guest Lecture Natalie Brown, Quantinuum		Guest Lecture Liang Jiang, The University of Chicago	Unstructured Time	
8:00PM - 9:00PM	Social	*Atrium Lobby*		Speaker Social	Speaker Social		Speaker Social		

QEC Summer School Schedule

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Week 2

Fault Tolerance - Logistical Gates
Experimental QEC - Bosonic Codes
Programming QEC Decoders

Time	Activity	*Location/Room*	Mon	Tue	Wed	Thr	Fri	Sat	Sun
			11	12	13	14	15	16	17
7:00AM - 8:55AM	Breakfast	*Winter Palace/West Terrace*	Breakfast						
9:00AM - 10:30AM	Lecture I	*New York*	Fault Tolerance - Logical Gates Ben Brown, IBM Quantum Daniel Litinski, PsiQuantum	Programming QEC Decoders James Wootton, IBM Quantum	Experimental QEC - Bosonic Codes Alec Eickbusch & Volodymyr Sivak, Yale University	Experimental QEC - Bosonic Codes Alec Eickbusch, Yale University Volodymyr Sivak, Yale University	Fault Tolerance - Logical Gates Ben Brown, IBM Quantum Daniel Litinski, PsiQuantum		
10:30AM - 11:000AM	Morning Tea Break	*Atrium Lobby*	Morning Tea Break						
11:00AM - 12:30PM	Lecture II	*New York*	Experimental QEC - Bosonic Codes Michel Devoret, Alec Eickbusch, & Volodymyr Sivak, Yale University	Fault Tolerance - Logical Gates Ben Brown, IBM Quantum Daniel Litinski, PsiQuantum	Fault Tolerance - Logical Gates Ben Brown, IBM Quantum Daniel Litinski, PsiQuantum	Programming QEC Decoders James Wootton, IBM Quantum	Experimental QEC - Bosonic Codes Alec Eickbusch & Volodymyr Sivak, Yale University		
12:30PM - 1:25PM	Lunch	*Winter Palace/West Terrace*	Lunch						
1:30PM - 2:00PM	Q&A Sessions	*Sunnyside*	Q&A Session Fault Tolerance - Logical Gates Ben Brown, IBM Quantum Daniel Litinski, PsiQuantum	Q&A Session Programming QEC Decoders James Wootton, IBM Quantum	Q&A Session Experimental QEC - Bosonic Codes Alec Eickbusch & Volodymyr Sivak, Yale University	Q&A Session Experimental QEC - Bosonic Codes Alec Eickbusch & Volodymyr Sivak, Yale University	Q&A Session Fault Tolerance - Logical Gates Ben Brown, IBM Quantum Daniel Litinski, PsiQuantum	Breakfast: 7:00AM - 9:30AM Lunch: 11:30AM - 12:30PM Hudson River Cruise : 1:00PM - 4:00PM Dinner: 6:00PM - 9:00PM	Study/Off Breakfast: 7:00AM - 9:30AM Lunch: 12:00PM - 1:30PM Dinner: 6:00PM - 9:00PM
2:00PM - 2:30PM		*Lyndhurst*	Q&A Session Experimental QEC - Bosonic Codes Michel Devoret, Alec Eickbusch, & Volodymyr Sivak, Yale	Q&A Session Fault Tolerance - Logical Gates Ben Brown, IBM Quantum Daniel Litinski, PsiQuantum	Q&A Session Fault Tolerance - Logical Gates Ben Brown, IBM Quantum Daniel Litinski, PsiQuantum	Q&A Session Programming QEC Decoders James Wootton, IBM Quantum	Q&A Session Experimental QEC - Bosonic Codes Alec Eickbusch & Volodymyr Sivak, Yale University		
2:30PM - 4:30PM	Unstructured Time	*N/A*	Unstructured Time						
4:30PM - 5:00PM	Open Problems, Student Talks, Crazy Ideas	*New York*	Student Talks	Student Talks	Open Problems - Part I Experimental QEC - Bosonic Codes Alec Eickbusch & Volodymyr Sivak, Yale University	Crazy Ideas Session	Open Problems - Part II Fault Tolerance - Logical Gates Ben Brown, IBM Quantum Daniel Litinski, PsiQuantum		
5:00PM - 5:30PM					Open Problems - Part I Fault Tolerance - Logical Gates Ben Brown, IBM Quantum Daniel Litinski, PsiQuantum		Open Problems - Part II Experimental QEC - Bosonic Codes Alec Eickbusch & Volodymyr Sivak, Yale University		
5:30PM - 6:00PM	Unstructured Time	*N/A*	Unstructured Time						
6:00PM - 6:55PM	Dinner	*Winter Palace/West Terrace*	Dinner						
7:00PM - 8:00PM	Guest Lectures/Social Time	*New York*	Guest Lecture Chen Wang, UMass Amherst	Unstructured Time	Unstructured Time	Unstructured Time	Guest Lecture Guanyu Zhu, IBM Quantum		
8:00PM - 9:00PM	Social	*Atrium Lobby*	Speaker Social				Speaker Social		

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Week 3

QEC Decoding
Experimental QEC - Trapped Ions
Programming QEC Simulations

Time	Activity	Location/Room	Mon	Tue	Wed	Thr	Fri	Sat	Sun
			18	19	20	21	22	23	24
7:00AM - 8:55AM	Breakfast	*Winter Palace/West Terrace*	Breakfast						
9:00AM - 10:30AM	Lecture I	*New York*	QEC Decoding Christopher Chubb, ETH Zurich Earl Campbell, Riverlane & University of Sheffield	Programming QEC Simulations Andrew Cross, IBM Quantum	Experimental QEC - Trapped Ions Ken Brown, Duke University Ciaran Ryan-Anderson, Quantinuum	Experimental QEC - Trapped Ions Ken Brown, Duke University Ciaran Ryan-Anderson, Quantinuum	QEC Decoding Christopher Chubb, ETH Zurich Earl Campbell, Riverlane & University of Sheffield		
10:30AM - 11:000AM	Morning Tea Break	*Atrium Lobby*	Morning Tea Break						
11:00AM - 12:30PM	Lecture II	*New York*	Experimental QEC - Trapped Ions Ken Brown, Duke University Ciaran Ryan-Anderson, Quantinuum	QEC Decoding Christopher Chubb, ETH Zurich Earl Campbell, Riverlane & University of Sheffield	QEC Decoding Christopher Chubb, ETH Zurich Earl Campbell, Riverlane & University of Sheffield	Programming QEC Simulations Andrew Cross, IBM Quantum	Experimental QEC - Trapped Ions Ken Brown, Duke University Ciaran Ryan-Anderson, Quantinuum		
12:30PM - 1:25PM	Lunch	*Winter Palace/West Terrace*	Lunch						
1:30PM - 2:00PM	Q&A Sessions	*Sunnyside*	Q&A Session QEC Decoding Christopher Chubb, ETH Zurich Earl Campbell, Riverlane & University of Sheffield	Q&A Session Programming QEC Simulations Andrew Cross, IBM Quantum	Q&A Session Experimental QEC - Trapped Ions Ken Brown, Duke University Ciaran Ryan-Anderson, Quantinuum	Q&A Session Experimental QEC - Trapped Ions Ken Brown, Duke University Ciaran Ryan-Anderson, Quantinuum	Q&A Session QEC Decoding Christopher Chubb, ETH Zurich Earl Campbell, Riverlane & University of Sheffield	Social Event TBA Breakfast: 7:00AM - 9:30AM Lunch & Dinner: TBA	Study/Off Breakfast: 7:00AM - 9:30AM Lunch: 12:00PM - 1:30PM Dinner: 6:00PM - 9:00PM
2:00PM - 2:30PM		*Lyndhurst*	Q&A Session Experimental QEC - Trapped Ions Ken Brown, Duke University Ciaran Ryan-Anderson, Quantinuum	Q&A Session QEC Decoding Christopher Chubb, ETH Zurich Earl Campbell, Riverlane & University of Sheffield	Q&A Session QEC Decoding Christopher Chubb, ETH Zurich Earl Campbell, Riverlane & University of Sheffield	Q&A Session Programming QEC Simulations Andrew Cross, IBM Quantum	Q&A Session Experimental QEC - Trapped Ions Ken Brown, Duke University Ciaran Ryan-Anderson, Quantinuum		
2:30PM - 4:30PM	Unstructured Time	*N/A*	Unstructured Time						
4:30PM - 5:00PM	Open Problems, Student Talks, Crazy Ideas	*New York*	Student Talks	Student Talks	Open Problems - Part I Experimental QEC - Trapped Ions Ken Brown, Duke University Ciaran Ryan-Anderson, Quantinuum	Crazy Ideas Session	Open Problems - Part II QEC Decoding Christopher Chubb, ETH Zurich Earl Campbell, Riverlane & University of Sheffield		
5:00PM - 5:30PM					Open Problems - Part I QEC Decoding Christopher Chubb, ETH Zurich Earl Campbell, Riverlane & University of Sheffield		Open Problems - Part II Experimental QEC - Trapped Ions Ken Brown, Duke University Ciaran Ryan-Anderson, Quantinuum		
5:30PM - 6:00PM	Unstructured Time	*N/A*	Unstructured Time						
6:00PM - 6:55PM	Dinner	*Winter Palace/West Terrace*	Dinner			Social Event: Diversity Panel @ Mary Duke Ballroom	Dinner		
7:00PM - 8:00PM	Guest Lectures/Social Time	*New York*	Guest Lecture Aleksander Kubica, AWS	Unstructured Time	Guest Lecture Michael Vasmer, Perimeter Institute	Dinner @ Mary Duke Ballroom	Guest Lecture Leo DiCarlo, TU Delft		
8:00PM - 9:00PM	Social	*Atrium Lobby*	Speaker Social		Speaker Social	Unstructured Time	Speaker Social		

QEC Summer School Schedule

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Week 4

LDPC Codes
Experimental QEC - Superconducting Qubits
Programming QEC Simulations

Time	Activity	Location/Room	Mon 25	Tue 26	Wed 27	Thr 28	Fri 29	Sat 30	Sun 31
7:00AM - 8:55AM	Breakfast	*Winter Palace/West Terrace*	Breakfast			Breakfast	Breakfast	Social Event TBA Breakfast: 7:00AM - 9:30AM Lunch & Dinner: TBA	Students Depart Breakfast: 7:00AM - 9:30AM
9:00AM - 10:30AM	Lecture I	*New York*	LDPC Codes Nikolas Breuckmann, UCL Nicolas Delfosse, Microsoft	Programming QEC Simulations Andrew Cross, IBM Quantum	Experimental QEC - Superconducting Qubits Maika Takita & Antonio Córcoles, IBM Quantum Andreas Wallraff, ETH Zurich	***Lecture begins at 8:30AM*** Experimental QEC - Superconducting Qubits Maika Takita, IBM Quantum Antonio Córcoles, IBM Quantum Andreas Wallraff, ETH Zurich	LDPC Codes Nikolas Breuckmann, UCL Nicolas Delfosse, Microsoft		
10:30AM - 11:000AM	Morning Tea Break	*Atrium Lobby*	Morning Tea Break			***Lecture begins at 10:00AM*** Programming QEC Simulations Andrew Cross, IBM Quantum	Morning Tea Break		
11:00AM - 12:30PM	Lecture II	*New York*	Experimental QEC - Superconducting Qubits Maika Takita & Antonio Córcoles, IBM Quantum Andreas Wallraff, ETH Zurich	LDPC Codes Nikolas Breuckmann, UCL Nicolas Delfosse, Microsoft	LDPC Codes Nikolas Breuckmann, UCL Nicolas Delfosse, Microsoft	***Bus leaves at 11:45AM*** Social Event: IBM Research BBQ & Lab Tour at IBM Yorktown	Experimental QEC - Superconducting Qubits Maika Takita & Antonio Córcoles, IBM Quantum Andreas Wallraff, ETH Zurich		
12:30PM - 1:25PM	Lunch	*Winter Palace/West Terrace*	Lunch				Lunch		
1:30PM - 2:00PM	Q&A Sessions	*Sunnyside*	Q&A Session LDPC Codes Nikolas Breuckmann, UCL Nicolas Delfosse, Microsoft	Q&A Session Programming QEC Simulations Andrew Cross, IBM Quantum	Q&A Session Experimental QEC - Superconducting Qubits Maika Takita & Antonio Córcoles, IBM Quantum Andreas Wallraff, ETH Zurich		Q&A Session LDPC Codes Nikolas Breuckmann, UCL Nicolas Delfosse, Microsoft		
2:00PM - 2:30PM		*Lyndhurst*	Q&A Session Experimental QEC - Superconducting Qubits Maika Takita & Antonio Córcoles, IBM Quantum Andreas Wallraff, ETH Zurich	Q&A Session LDPC Codes Nikolas Breuckmann, UCL Nicolas Delfosse, Microsoft	Q&A Session LDPC Codes Nikolas Breuckmann, UCL Nicolas Delfosse, Microsoft		Q&A Session Experimental QEC - Superconducting Qubits Maika Takita & Antonio Córcoles, IBM Quantum Andreas Wallraff, ETH Zurich		
2:30PM - 4:30PM	Unstructured Time	*N/A*	Unstructured Time				Unstructured Time		
4:30PM - 5:00PM	Open Problems, Student Talks, Crazy Ideas	*New York*	Student Talks	Student Talks	Open Problems - Part I Experimental QEC - Superconducting Qubits Maika Takita & Antonio Córcoles, IBM Quantum Andreas Wallraff, ETH Zurich		Open Problems - Part II LDPC Codes Nikolas Breuckmann, UCL Nicolas Delfosse, Microsoft		
5:00PM - 5:30PM					Open Problems - Part I LDPC Codes Nikolas Breuckmann, UCL Nicolas Delfosse, Microsoft		Open Problems - Part II Experimental QEC - Superconducting Qubits Maika Takita & Antonio Córcoles, IBM Quantum Andreas Wallraff, ETH Zurich		
5:30PM - 6:00PM	Unstructured Time	*N/A*	Unstructured Time						
6:00PM - 6:55PM	Dinner	*Winter Palace/West Terrace*	Dinner					Closing Dinner & Keynote Speaker Sergey Bravyi, IBM Quantum @ Carriage House	
7:00PM - 8:00PM	Guest Lectures/Social Time	*New York*	Guest Lecture Anirudh Krishna, Stanford University	Unstructured Time	Guest Lecture, Ted Yoder, IBM Quantum	Unstructured Time	Social Event TBA		
8:00PM - 9:00PM	Social	*Atrium Lobby*	Speaker Social		Speaker Social			Speaker Social	