TWO-DAY WORKSHOP ON QUANTUM COMPUTING COMMEMORATING PLMSS TRUST'S 11th ANNIVERSARY AND FOUNDATION DAY

PLMSS

Workshop On Quantum Computing
by IBM Quantum on

14th & 15th May 2026

Venue: IBM India Research Labs-IRL
Embassy Golf Links, Bangalore

ABOUT PLMSS TRUST

PLMSS TRUST was registered on 3rd December 2014 as a non-profit organisation It was formed in order to take up research, aid, promote, guide, manage, coordinate, execute and disseminate activities in the upcoming areas:

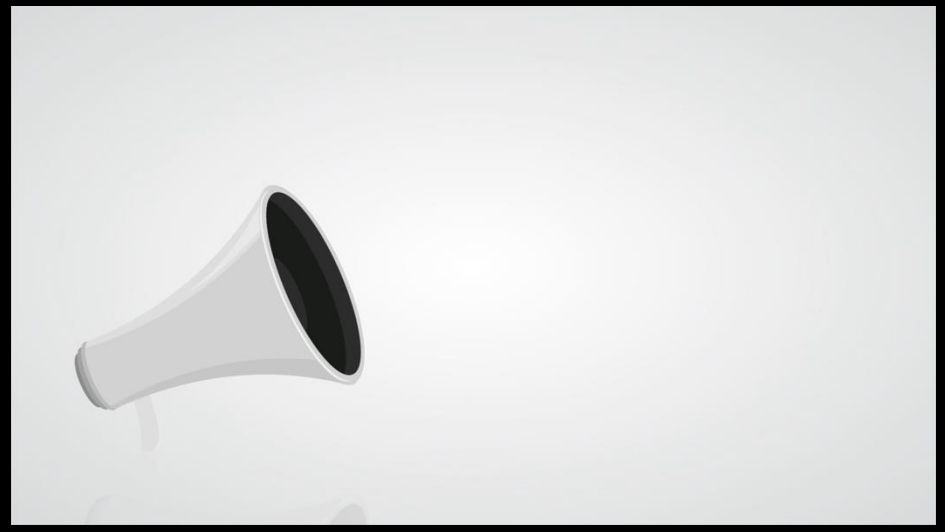
- System Life Cycle Management (SLCM)
- Model based Definition
- Model Based System Engineering
- Sustainable Engineering
- Enterprise Resource Planning (ERP)
- Digital Thread/Digital Twin
- Artificial Intelligence (AI)
- Quantum Computing
- **Kindly visit** https://plmss.org.in/

About The Workshop

The workshop is jointly conducted by PLMSS Trust and IBM Quantum Team.

Takeaways from Workshop: How could quantum computing speed up new product development for the aerospace and space industry, in enhancing autonomous operations, optimising flight trajectories , advanced material simulations, and other key capabilities in the areas of Avionics, Product Lifecycle Management, Independent Verification and Validation, Computational Fluid Dynamics, Data Centre, Simulation, Finite element analysis.

Hands Sessions on the specific topics, related use-cases/case-studies.



Bio-data of Speakers

Shesha Raghunathan

Shesha Raghunathan is currently Strategy Lead for IBM Quantum in India. He is responsible for quantum strategy for India both in quantum hardware deployment and its expansion, as well as scaling up quantum adoption. Further he is responsible for engaging with the broader ecosystem including academia, industry, research labs, startups and developers.

Previously, he was Global Lead for Startup Ecosystem responsible for engaging with startups worldwide where he delivered novel go-to-market functionalities like Qiskit Functions. Prior to that, he was part of Electronic Design Automation (EDA) Timing analysis development team and worked on various aspect of analysis including noise, timing abstraction, reporting along with analytics and machine learning.

Shesha got his PhD in Quantum Computing from University of Southern California, LA in 2010. He joined IBM in 2011. His current research interests include near-term quantum algorithms, circuit optimization and HPC-Quantum.

LinkedIn: https://www.linkedin.com/in/shesha-raghunathan

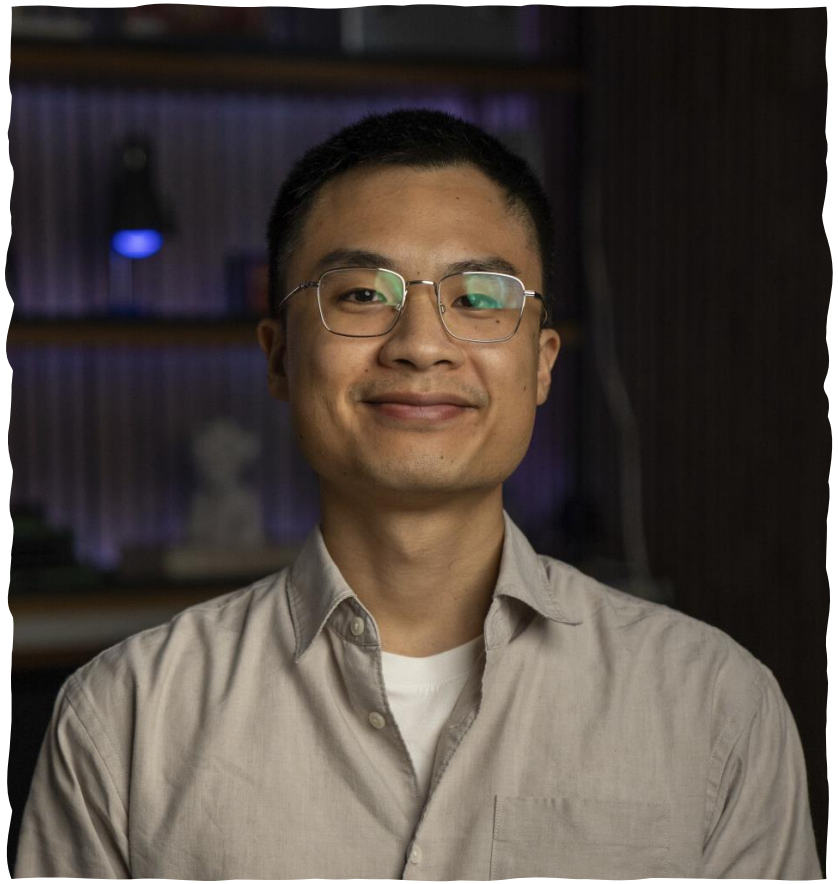
Nick Brønn

In his current role, Dr. Nick Brønn forges partnerships between IBM and researchers in academia and national laboratories, both within and outside of the United States. By navigating the intersection of researcher interests and the computational capabilities of current quantum systems, he helps accelerate the adoption of quantum computing as a primary engine for scientific discovery. This work bridges the gap between high-level strategy and deep technical execution, drawing on his background as a quantum algorithm engineer, open-source software developer, digital content creator, and builder of quantum hardware on which he once experimented with in the lab.

Dr. Nick Brønn earned his Ph.D. in experimental condensed matter physics from the University of Illinois in 2013. After employing that background to develop IBM quantum hardware for 7 years, he transitioned "up the stack" in 2020 to use open-source software as his tool of choice in which to conduct "experiments" on quantum computing platforms. This transition offered him a comprehensive, "full-stack" perspective of the architecture, allowing him to collaborate externally on a variety of topics including superconducting qubits and their integration, quantum simulation, quantum machine learning, circuit compilation, and error suppression, among others. Today, he uses this breadth of experience to interface fluently with researchers across the many scientific fields poised to be transformed by the promise of quantum computation.

LinkedIn: https://www.linkedin.com/in/nickbronn

Kevin Sung



Kevin J. Sung is a software developer and researcher at IBM. Born and raised in New Jersey, he graduated from Rutgers University in 2015 with a BS in mathematics and computer science. After earning his PhD in computer science from the University of Michigan in 2020, he joined IBM Quantum, where he researches and develops open-source software for quantum computing applications, supports users of IBM Quantum hardware, and performs educational outreach, including running tutorials and workshops on IBM Quantum's software offerings and latest research developments. Kevin is the main developer of ffsim and a major contributor to several other open-source software libraries for quantum computing, simulation, and chemistry.

Ritajit Majumdar

Dr. Ritajit Majumdar is a Research Scientist at IBM Quantum, based at the IBM India Research Lab. He is a part of the Quantum Algorithm and Engineering team where he collaborates with researchers to attain utility scale results using IBM Quantum technologies. In this role he has collaborated with researchers from Yonsei University, South Korea, National Taiwan University, and different institutes of India. He holds a PhD from the Indian Statistical Institute, during which he spent a significant period as a visiting scholar at the IBM T. J. Watson Research Center in New York with the prestigious Fulbright-Nehru Doctoral Research Fellowship. He is a recipient of the Gold Medal from Calcutta University for his Master's degree and was honored with the esteemed DST Inspire Fellowship. In addition to his work at IBM, he has served academia as full time and part time faculty under Calcutta University, and West Bengal University of Technology.

LinkedIn: https://www.linkedin.com/in/ritajit-majumdar-59683442

Proposed schedule

Day 1

Introduction / Welcome (statements from DRDO/IBM)

Overview of current field (i.e., what have people been doing with examples)

- Set up context for National Quantum Mission (NQM) as it relates to these

Introduction to quantum

- Qubits, superposition, entanglement, measurement
- Exploring concepts with Qiskit (interactive notebook, HW examples probably good)

IBM Quantum learning resources

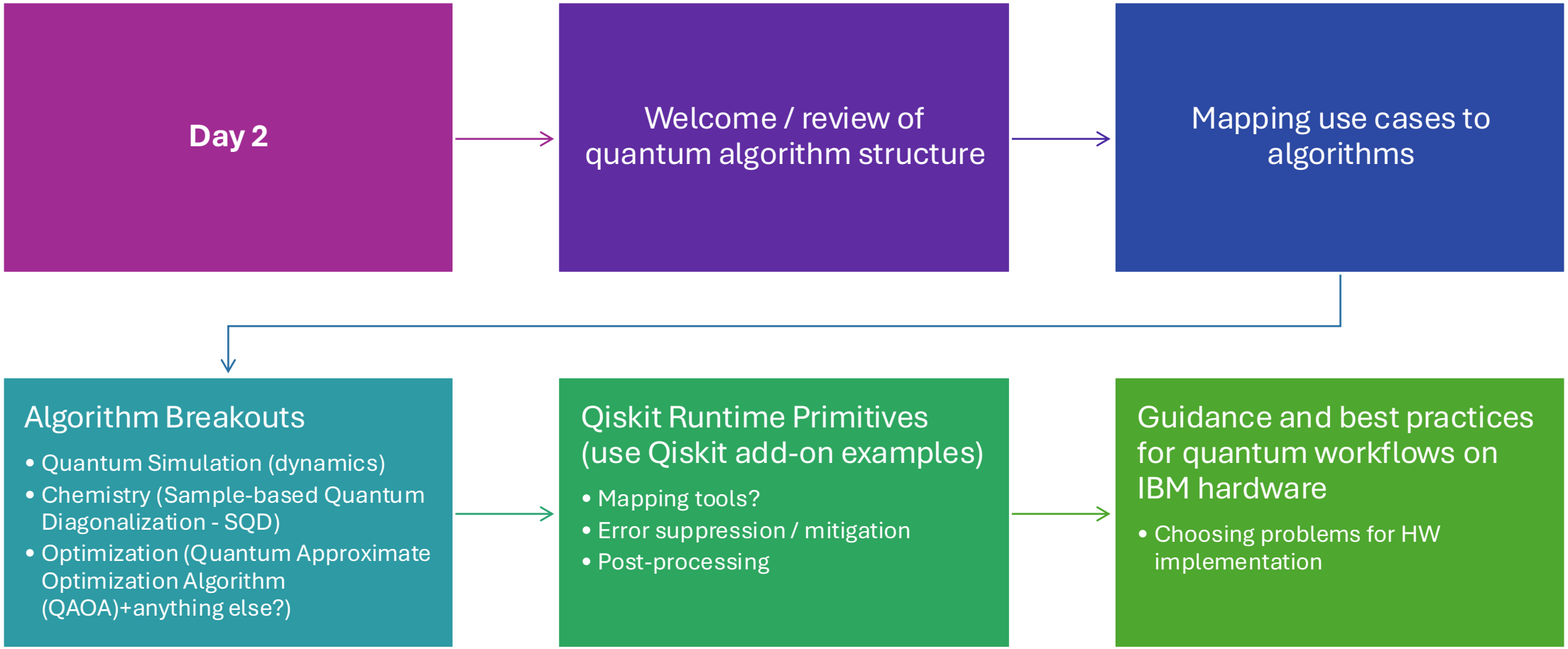
- Learning platform / Qiskit YouTube / Quantum Global Summer School (QGSS) / etc

IBM Quantum Roadmap

- Utility to Advantage to Fault Tolerant Quantum Computing (FTQC)
- Highlight Amaravati Quantum Valley and IBM/India connections

Qiskit Patterns overview (combine similarities of all algos)

- Mapping problems to quantum computers (Pattern 1)
- Executing on IBM quantum hardware (Patterns 2-4)
- Qiskit Functions and Add-ons


Day 2
Welcome / review of quantum algorithm structure
Mapping use cases to algorithms
Algorithm Breakouts
• Quantum Simulation (dynamics)
• Chemistry (Sample-based Quantum Diagonalization - SQD)
• Optimization (Quantum Approximate Optimization Algorithm (QAOA)+anything else?)
Qiskit Runtime Primitives (use Qiskit add-on examples)
• Mapping tools?
• Error suppression / mitigation
• Post-processing
Guidance and best practices for quantum workflows on IBM hardware
• Choosing problems for HW implementation

10 leaders and 15 architects who are computational experts as well as those who use complex computation as a tool in their daily activities.

50 Sharpest Scientists and Engineers who are deep into computation or in application of computation.

Registration Fees:

Rs. 5000/- for Onsite Session

Rs.1000/- for Online Session

including GST, Way of payment by Cheque/ DD/ NEFT

Cheque and DD should be drawn in favour "**PLMSS Trust**" payable at Bengaluru

For Bank Transfer, please mention Number / Name in remarks column, Bank details.

Last Date for Registration is 12th May 2026

Account name	**PLMSS Trust**
Account No.	41357119119
IFSC Code	SBIN0061768
Bank Name	State Bank of India
Branch	ARDC Campus

SBI

PRODUCT LIFE CYCLE MODELLING

SCAN & PAY

UPI ID: plcms@sbi

Organizing Team Members Details

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