



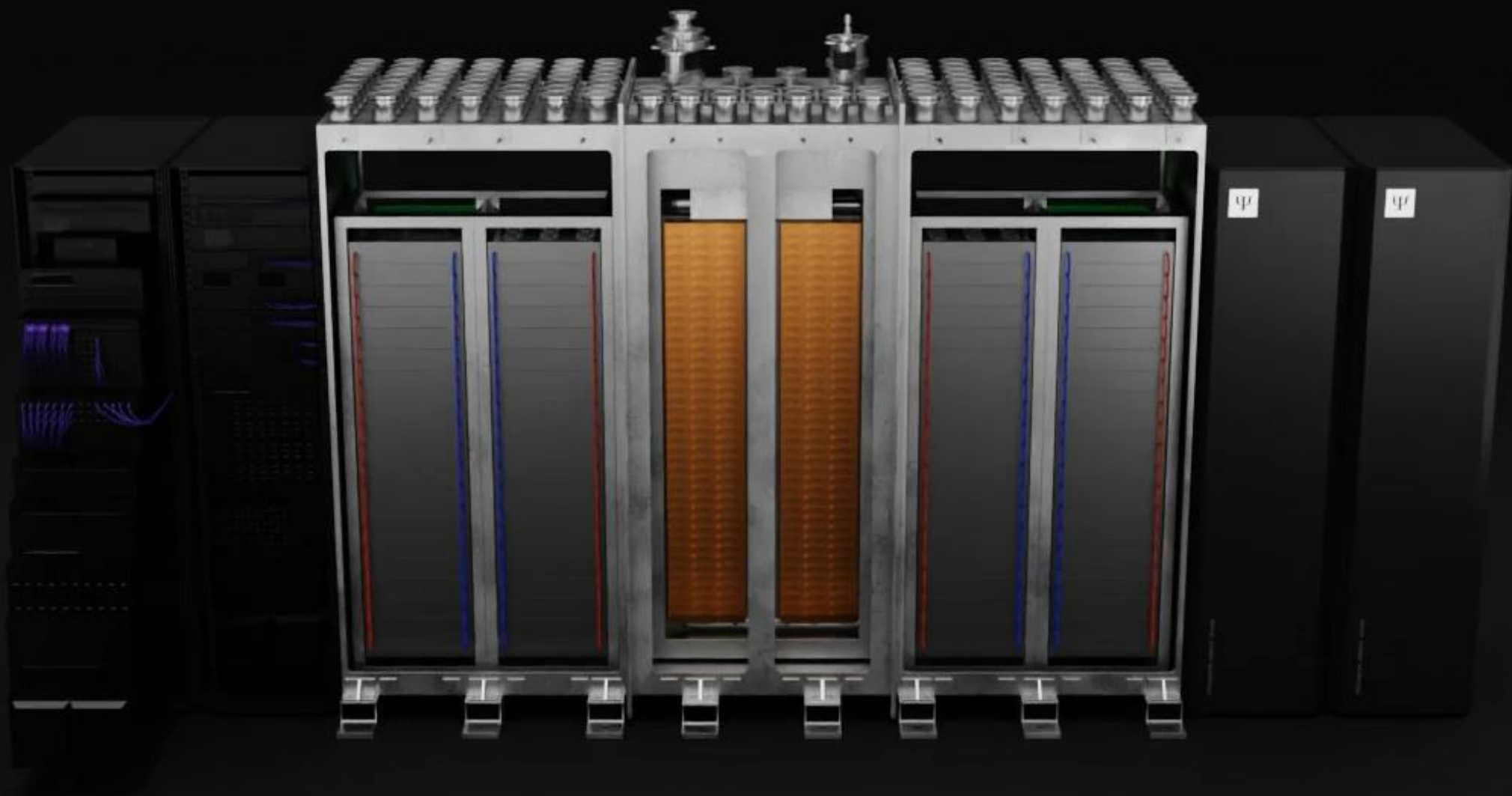
PsiQuantum is a quantum computing company on a mission to build and deploy the world's first **useful** quantum computers.



This is what we'll be
talking about today!

**PsiQuantum is a scary
place to work at**














Quantum
Hardware

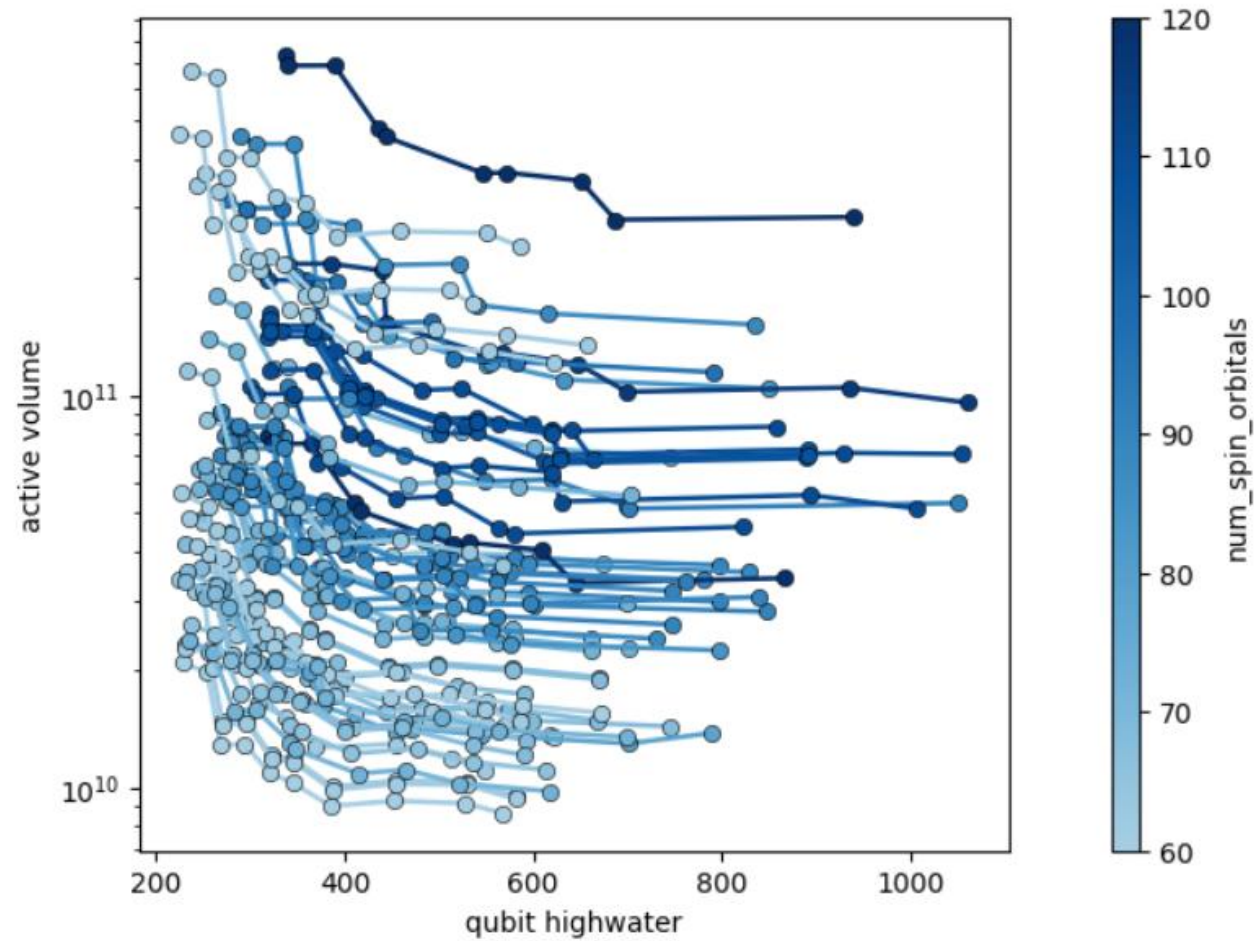
Useful
applications

Our Development Tools Accelerate Use Case Optimization

				PsiQ Tools
	Algorithm Down Selection	Weeks	→	Days
	Algorithm Instantiation	Months	→	Days
	Compilation	Months	→	Days
	Resource Estimation	Weeks	→	Minutes
	Optimization	Months	→	Weeks

Fast quantum simulation of electronic structure by spectrum amplification

Guang Hao Low,^{1,*} Robbie King,^{1,2} Dominic W. Berry,³ Qiushi Han,⁴ A. Eugene DePrince III,^{1,5} Alec White,⁶ Ryan Babbush,¹ Rolando D. Somma,¹ and Nicholas C. Rubin^{1,†}



<https://arxiv.org/abs/2502.15882>

<https://github.com/isi-usc-edu/qb-gsee-benchmark/>





Quantum
Hardware

Construct™





Useful
applications

Introducing



Introducing Construct™

Expert-Driven Platform to
Develop Fault Tolerant
Quantum Applications



Good morning, Even!

Welcome to **PsiQuantum Construct!**
If this is your first time using our FTQC development platform, click on one of the links below to get going.


Learning


- Calculate a molecule's electronic structure using FTQC [↗](#)
- Apply FTQC solvers for PDEs in the Finance Domain [↗](#)
- Solve the Fermi-Hubbard model using FTQC [↗](#)
- Simulate fluid dynamics with FTQC solvers for PDEs [↗](#)
- [See more](#)


Tutorials


- Using Qubricks [↗](#)
- Quantum Resource Estimation Symbolics [↗](#)
- Quantum resource Estimation of Numerics [↗](#)
- Going from Circuit Sketch to IDE Code [↗](#)
- [See more](#)


Recent Files


 **step7-ry-gates**
maria-test

 **grover-step2-registers**
maria-test

 **step4-next-level**
maria-test

 **SAPT**
Demo-Project

 **step7-ry-gates**
evens-personal-project

 **all**
p

Updates from PsiQ

Early Access Program started

Today, we made Construct publicly accessible through the internet, kicking off the Early Access Program. [see more](#)

Construct team / Apr 28, 2025

Construct IA

We've opened Construct to all internal PsiQ users today. Please give us your feedback as you test the... [see more](#)

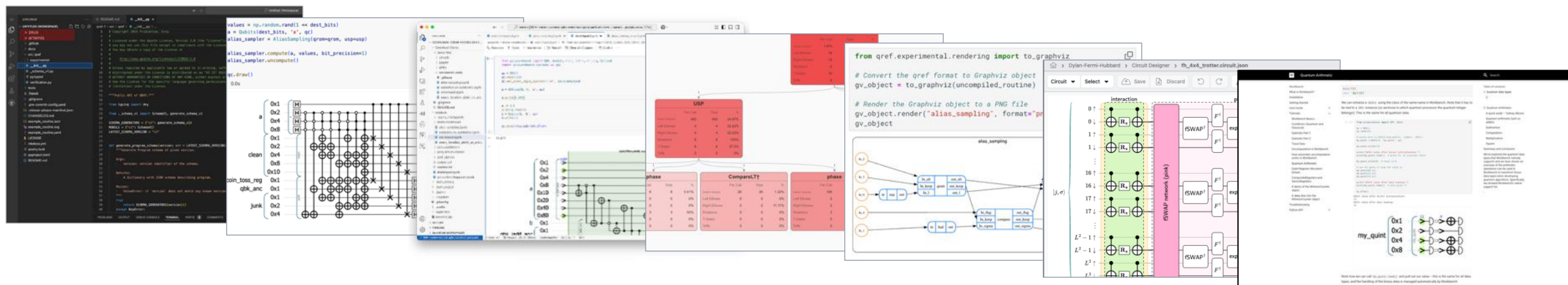
Construct team / Feb 3, 2025

Quantum Simulations Boost Drug, Crop Research

PsiQuantum and Boehringer Ingelheim have achieved a 234x speedup in simulating Cytochrome... [see more](#)

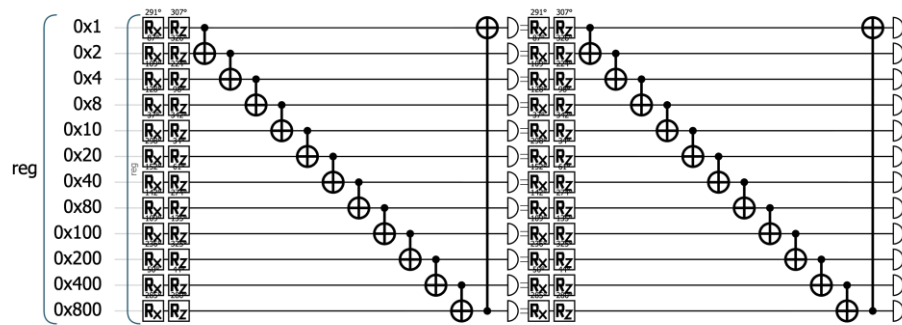
PsiQ Blog / Jan 22, 2025

PsiQuantum Expands in Brisbane



Fault Tolerant Algorithms are Fundamentally Different

NISQ Algorithms



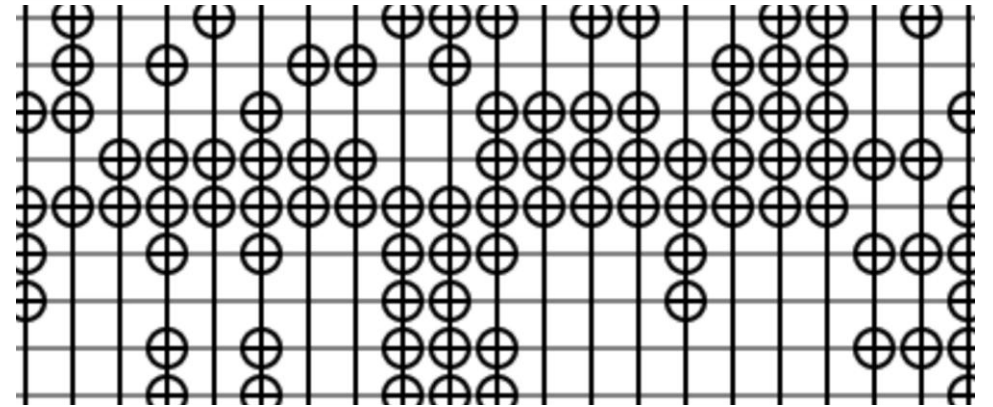
Hundreds of operations

Low level programming

Focus on error mitigation

Toy problems

Fault Tolerant Algorithms



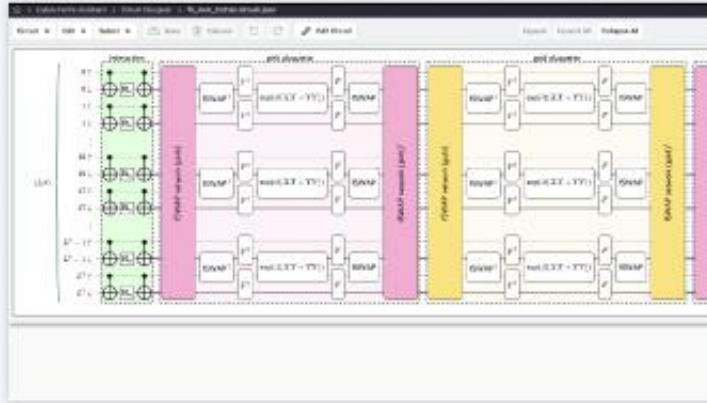
Billions of operations

High level abstract programming

Focus on **resource optimization**

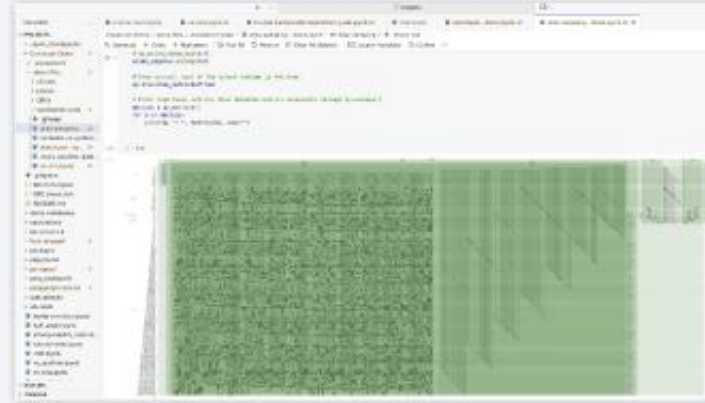
Meaningful applications

Design



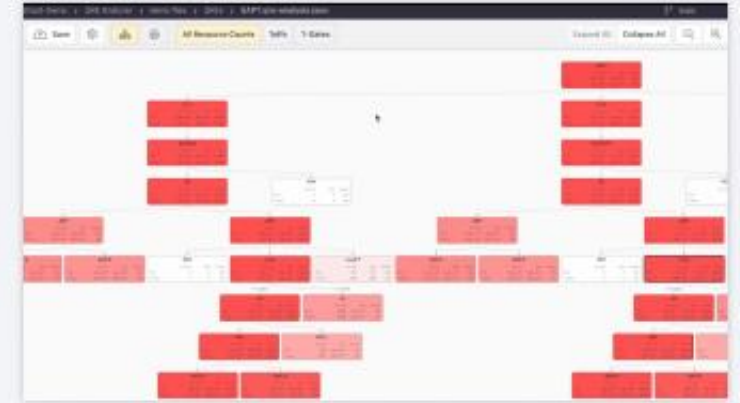
cd Circuit Designer

Develop



w Workbench

Optimize



Ra Resource Analyzer

Thank you!

To sign-up for construct access:

<https://www.psiquantum.com/software#apply>



Michał & Konrad's newsletter:

<https://www.qse-newsletter.com>

PsiQuantum is hiring:

<https://www.psiquantum.com/open-roles>

