



# range Bytes

Volume 50 No 3

March 2026

\$1.50

## NOCCC meetings for Sunday March 1, 2026

### MAIN MEETING FOR March 1

Chapman Student Matthew Molteni  
Speaking on  
The Evolution of Sports Analytics

### Special Interest Groups (SIGs) & Main Meeting Schedule

#### 9:00 AM – 10:30 AM

**Beginners Digital Photography** .....**Science 131**

Q and A about Digital Photography, need new leader

**Linux for Desktop Users**.....**Science 129**

Beginners' Questions about Linux

#### 10:30 AM – 12:00 PM Noon

**3D Printing** .....**Science 127**

Questions and Answers about 3D printing if requested

**Advanced Digital Photography**.....**Science 131**

Questions and Answers about Digital Photography

**Linux Administration** .....**Science 129**

More topics about the Linux operating system

**Mobile Computing**.....**Science 109**

We discuss smart phones, tablets, laptops, operating systems and computer related news. **Waiting for a new leader.**

#### 12:00 PM Noon – 1:00 PM

**3D Printing**..... **Science 127**

Questions and Answers about 3D printing if requested.

**PIG SIG** ..... **Irvine Courtyard**

Bring your lunch. Consume it in the open-air benches in front of the Irvine Hall or join the group that goes to the student cafeteria. Talk about your computer(s) and life experiences.

### 1:00 – 3:00 PM Main Meeting

#### What is Sports Analytics?

Sports analytics encompasses a set of data management technologies and computational techniques for gathering and interpreting observable statistical data about athletes and game play. Team executives use statistical analysis to evaluate players for drafting, trades, and contract negotiations. Coaches use analytics to understand competitors' tendencies, to develop in-game strategies, and to identify areas for player improvement. People use them to decide on the bets they want to make.

**BOD.....3-4PM..... Science 129**

Verify your membership renewal information by checking your address label on the last page. If it is not right, let the treasurer know.

**Mark your calendars for these meeting dates**  
**2026: Mar. 1, Apr. 5, May 3**

Coffee, cookies and donuts are available during the day in room 129 .

“Friends Helping Friends” since April 1976

# Table of Contents

Main Meeting \_\_\_ 1

Special Interest Groups \_\_\_ 1

**Again, verify your membership renewal information by checking your address label on the last page**

Mark your calendars for these meeting dates \_\_\_ 1

Contact information and email forwarding addresses \_\_\_ 2

**Editors Corner** \_\_\_ 2

Quantum computing \_\_\_ 3

A Little Humor \_\_\_ 3

Directions and map \_\_\_ 4

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**Our Website**

[WWW.NOCCC.ORG](http://WWW.NOCCC.ORG)

**Reminder:** Membership expiration dates are based on the date that you joined the club.

**Example,** you joined or re-upped your membership in the club in November of 2024.

That means that in November 2025 you should pay your membership dues. In the address label area of the Orange Bytes is your join month/expiration month.

**A thought to consider;** The only reason the club has been able to continue functioning financially after Covid is a generous donation in the will of a former member. Could you include a small donation in yours?

## Reprint Policy

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## Editors Corner



**Kevin Le**

The Chapman student presenter that gave our members an introduction to the concepts that are involved in Quantum computing. Kevin is excited about the possibilities of Quantum computing. He gave several examples of areas where Quantum computers are exponentially faster than conventional computers. When pressed, he

had to concede that the hype and videos are mostly about the Quantum hardware, its speed, number of Qubits, etc.. Often not mentioned is that it takes a large conventional computer to perform the very large number of different tasks that are prerequisites for the hardware that allows Qubits to exist, to function. The pictures of exotic looking hardware that needs to be cooled to near absolute zero is impressive. But that hardware by itself can't add 2 + 2.

**So I asked Claude AI to explain some more.**

**ME:** When it comes to quantum computing, with a ten qubit quantum computer, can a human being directly arrange those qubits to try and answer a question?

**Claude:** Right. So that's the fascinating question. The short answer is no. Not directly.

However, a human *can* effectively "arrange" qubits in a meaningful sense by programming the quantum computer. You do this by designing a **quantum circuit** — a sequence of quantum gates (operations) that manipulate the qubits in precise ways. You write this as code or diagram it out, and then the computer's control systems (**that is a large conventional computer**) translate that into precise microwave pulses or laser bursts that manipulate the qubits on your behalf. So you are directing how the qubits behave — just indirectly through software and hardware controls.

With a 10-qubit quantum computer specifically, a human could absolutely design and run circuits on it. In fact, IBM and others have made small quantum computers like this accessible online through cloud platforms, where anyone can write quantum programs and run them on real hardware. It's a small machine by modern standards, but absolutely usable for learning and experimenting with quantum algorithms.

So the short answer is: yes, a human can arrange qubits to tackle a question — just through programming rather than physical manipulation.

**ME:** So the human must ask the conventional control computer its question. Then hope that cpu can understand and translate into code needed to manipulate the qubits to get an answer. I am guessing this normally involves multiple iterations

**Claude: Yes.** The number of iterations is approximately  $\frac{\pi}{4} \sqrt{N}$  where  $N=2^{56}$ .

□ Final Answer

A 56-qubit Grover search requires about  $2.1 \times 10^8$  iterations of the oracle + diffusion cycle.

That's **~210 million** iterations the conventional control computer has to setup the qubits, run the configuration, and evaluate the results..

**ME:** can you give me an example of a actual real life problem, that was put to say, about a 1000 qubit system, and the arrived at a answer(s)?

**Claude:** This is where I have to be really honest with you — and it's an important distinction.

As of my knowledge cutoff in mid-2025, there is **no widely accepted example** of a real-world practical problem being solved by a quantum computer where the answer was both useful and couldn't be solved more easily by a classical computer. That milestone, often called definitive **quantum advantage on a practical problem**, had not been clearly achieved yet.

What has happened are demonstrations, but they come with asterisks:

**Google's 2019 "quantum supremacy" claim** with their 53-qubit Sycamore processor is the most famous. They claimed it performed a specific calculation in 200 seconds that would take a classical supercomputer 10,000 years. However the problem was essentially useless in practical terms — it was a random circuit sampling task designed specifically to be hard for classical computers. And IBM disputed the 10,000 year claim, arguing their classical systems could do it much faster.

**IBM and others** have run quantum circuits on systems approaching and exceeding 1,000 qubits, but raw qubit count is misleading — most of those qubits are too noisy to be reliably useful. The effective "quality" of the computation matters more than qubit count.

The honest state of affairs is that quantum computing in 2025 is

still largely in the **experimental and proof-of-concept phase**.

The hardware exists, algorithms exist, but reliably beating classical computers on a problem anyone actually cares about remained elusive.

Would you like me to search for any developments that may have occurred since then?

**ME: Sure**

**Claude:** Good news — there have been some genuinely significant developments since my knowledge cutoff. Here's an honest summary of where things stand:

**The biggest milestone: Google's "Quantum Echoes" (October 2025)**

Google announced that their Willow quantum chip demonstrated the first-ever verifiable quantum advantage running an algorithm called the "out-of-order time correlator" (OTOC), which they call Quantum Echoes. It runs 13,000 times faster on Willow than the best classical algorithm on one of the world's fastest supercomputers. [Google](#) Importantly, "verifiable" means the result can be confirmed repeatedly — not just a one-off claim. They also used it to measure molecular structure, pointing toward drug discovery applications.

**D-Wave's practical problem (March 2025)**

D-Wave announced what they called the world's "first and only demonstration of quantum computational supremacy on a useful, real-world problem," claiming their annealing quantum computer outperformed one of the world's most powerful classical supercomputers in solving a magnetic materials simulation problem.

[Network World](#)

**IonQ and a medical device simulation**

IonQ and Ansys ran a medical device simulation on IonQ's 36-qubit computer that outperformed classical high-performance computing by 12 percent — one of the first documented cases of quantum computing delivering practical advantage in a real-world application. [SpinQ](#)

**The honest caveat**

Despite all this progress, IBM released a paper explaining why it is so difficult to accurately evaluate quantum advantage claims, and stated that real quantum advantage requires industry consensus — which they anticipate will be achieved sometime before the end of 2026. [Network World](#)

So the bottom line is: 2025 was genuinely a breakthrough year, with real demonstrations on real hardware — but the field is still in early days, and most experts expect the truly transformative applications to emerge gradually over the next 5-10 years rather than all at once.

## A LITTLE HUMOR

An elderly patient needed a heart transplant. Their doctor told them, "We have three possible donors. The first is a young, healthy athlete who died in a car accident. The second is a businessman who never drank or smoked, but died in a private-jet accident. The third is an attorney who died after practicing law for 30 years. Which heart do you want?"

The patient said they'd take the lawyer's heart. "Why?" the doctor asked. "Easy," they said. "I wanted a heart that hadn't been used."

A mother and her child walked through a cemetery. They passed by a headstone inscribed with this message: "Here lies a good lawyer and an honest man." The child read the headstone and looked confused. "What's wrong?" the mother asked. "Mommy,"

the child asked, "why did they bury two people there?"

**North Orange County Computer Club**

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**To All Members:**

The line above your mailing address now shows your joindate. Please use your join **month** to choose when to renew your membership.

**Dated Material – Please deliver ASAP**

Membership Level (\$)	1 Year	3 Years
Individual Member .....	35	90
Each Additional Family Member .....	15	40
Full-Time* Enrolled College Student	20	
Enrolled High School Student	15	
*Minimum 12 Semester Hours		
Business Member + Ad (Business Card)	25	
Business Member + Ad (¼ Page, ½ Page)	65,	100
Business Member + Ad (Full Page)	175	
Contributing Member	75	
Supporting Member	100	
Advocate Member	250	
Patron Member	500	

**Directions to the NOCCC meeting location**



Enter CA-55 N (Costa Mesa Freeway) crossing Interstate 5 toward Anaheim/Riverside for 9 miles. *Notice freeway and street signs stating "Chapman University."* Exit toward E Chapman Ave. Turn right onto N Tustin St. Turn left onto E Walnut Ave.

1) Turn left past N. Center St. for the **best place to park** in the underground parking structure ( Lastinger under the sports field). Pay the small fee (\$2) to park Ask members or [help@noccc.org](mailto:help@noccc.org) about parking details, restrictions, and our price break!

2) Turn left onto N Center St. On the right is the Hashinger Science Center, 346 N Center St. Orange California. Parking on the University side is free. Parking on the residential side is a city violation that may cost you a **tow away and a ticket!**