NOCCC meetings for Sunday October 1, 2023

MAIN MEETING -

President Robert Strain will be demonstrating a couple of the Windows forensic programs that he uses in data recovery work. And a little horn blowing for Linux as well.

Special Interest Groups (SIGs) & Main Meeting Schedule

9:00 AM – 10:30 AM

Beginners Digital Photography ....Science 129
Questions and Answers about Digital Photography

Linux for Desktop Users…………………Science 131
Beginners' Questions about Linux

10:30 AM – 12:00 PM Noon

3D Printing ....Science 127
Questions and Answers about 3D printing

Advanced Digital Photography… ....Science 129
Questions and Answers about Digital Photography

Linux Administration ....Science 131
More topics about the Linux operating system

Mobile Computing ....Science 109
We discuss smart phones, tablets, laptops, operating systems and computer related news. **We need a new leader.**

12:00 PM Noon – 1:00 PM

3D Printing………………………………… Science 127
Questions and Answers about 3D printing

PIG SIG ………………………………….. Irvine Courtyard
Bring your lunch. Consume it in the open-air benches in front of the Irvine Hall. Talk about your computer and life experiences.

1:00 PM – 3:00 PM Main Meeting
See above

…………….…….. **Science 131**

3:00 PM – 4:00 PM

Board Meeting………………………………………………
Science 129

Verify your membership renewal information by checking your address label on the last page. Not right, speak.

Mark your calendars for these meeting dates
2023: Oct 1, Nov 5, Dec 3,
2024: Jan 7, Feb 4, Mar 3, Apr 7, May 5, Jun ?

Coffee, cookies and donuts are available during the day in the Irvine Hall lobby.
Food and drinks need to remain outside the Irvine Auditorium.

"Friends Helping Friends"
since April 1976

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Special email addresses
Jim Sanders is editor@noccc.org
membership@noccc.org

Our Website
WWW.NOCCC.ORG

Reminder: Membership expiration dates are based on the date that you joined the club. **Example**, you joined the club in October of 2022. That means that in October 2023 you should pay your membership dues.
In the address label area of the Orange Bytes is your join month/expiration month.

Reprint Policy

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Board of Directors

Contact information and email forwarding addresses
President Robert Strain
president@noccc.org (cell 714.222.2140)

Vice President (acting) Jim Sanders
vicepresident@noccc.org (714-544-3589)

Secretary position is open
secretary@noccc.org

Treasurer Dr. Don Armstrong
treasurer@noccc.org (home 714.773.1187)

Webmaster Jim Sanders
webmaster@noccc.org (home 714.544.3589)

Director Terry Dickson
terry@noccc.org (home 714.899.9913)

Director Dennis Martin
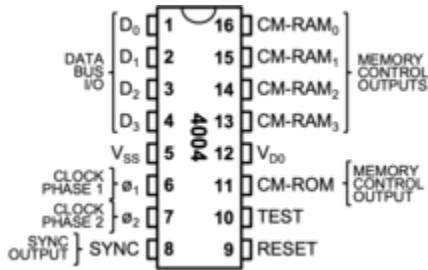dennis@noccc.org (home 951.926.3065)

Director Richard Miller
richard@noccc.org (cell 714.309.1504)

Editor's Report

ODDS and ENDS
One of the sections of NOCCC.ORG that seems to be over looked by most members is the Links sections. There actually **four** Links sections. The new Links, the old Links, the Useful Links, and the Other Clubs Links. .
Just for grins, I went to the last old link entry which is "Year 2000 (Y2K)." Clicked on **Margolin (***Ex-club Pres.)* **Development** Link, the Microsoft Year 2000 Issue (which surprisingly Microsoft didn't reject, just converted to "https://learn.microsoft.com/en-us/" That takes you to a MS page that has links to an amazing amount of MS info. One is "Find technical documentation" where I learned **Powershell** can run on Linux. Check it out!

A little History

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        D₀  [ 1      16 ] CM-RAM₀
DATA    D₁  [ 2      15 ] CM-RAM₁  MEMORY
BUS     D₂  [ 3      14 ] CM-RAM₂  CONTROL
I/O     D₃  [ 4   4  13 ] CM-RAM₃  OUTPUTS
              0
        V_SS[ 5   0  12 ] V_DD
              4
CLOCK   Ø₁  [ 6      11 ] CM-ROM   MEMORY
PHASE 1                            CONTROL
CLOCK   Ø₂  [ 7      10 ] TEST     OUTPUT
PHASE 2
SYNC
OUTPUT  SYNC[ 8       9 ] RESET
```

From www.intel.com

The 4004, the world's first microprocessor, is signed with the initials F.F., for Federico Faggin, its designer. Signing the chip, which had **2300 transistors**, was a spontaneous gesture of proud authorship. It was also an original idea, imitated after him by others. Faggin initially etched the F.F. inside the design. Later he moved them to its border, like the autograph on a work of art. The signature is a particularly poignant testimony because, at the time of its birth, the first microprocessor, far from being considered a milestone by Intel's management, represented a diversion from the mainline business of the company which was memory chips.

The birth of the 4004 was an intense moment witnessed by Faggin alone, working into the night in the deserted Intel labs. He had received the 4004 wafers from the manufacturing line at around 6 PM, in January 1971, as people were leaving for the day. With hands trembling and heart pounding he loaded the wafers in the wafer prober and connected it to the tester. A sigh of relief raised from his chest, above the humming of the instruments, as he observed electrical activity in the device. As the testing progressed, the tension was gradually transforming into elation as all the critical functions showed to be operating properly. At around 3 AM, exhausted and ecstatic, Faggin left the lab. At home his wife, Elvia, was waiting for the news. "It works"! he announced, and they shared the happiness in this moment of triumph.

On the lower right-hand corner of the 4004 chip are the initials F.F. for Federico Faggin, the project leader and author of the silicon design.
Federico Faggin signed the 4004 because: He was the leader of the design/development project of the first microprocessor, and brought it to its successful conclusion.

Faggin did the detailed design work (logic design, circuit design, chip layout, tester design and test program development) with help from Masatoshi Shima, a Busicom software and logic designer without any previous chip design experience.

Busicom presented to Faggin the engineering prototype of their calculator with the first 4004. Faggin in 1996 donated it to the Computer History Museum in Silicon Valley.

He was the original developer of the Silicon Gate Technology, at Fairchild Semiconductor in 1968, the first commercial self-aligned gate process, and the designer of the world's first commercial integrated circuit using the silicon gate technology: the Fairchild 3708. This semiconductor technology was copied by Intel and made into its core manufacturing technology, enabling the early realization of high-performance memories and the microprocessor.

Faggin made two other key inventions at Fairchild: the Buried Contact and the Bootstrap Load. At Intel he applied these innovations to build the first microprocessor. They were essential in making the 4004 a reality with the technology available in 1970. Faggin also created the basic Methodology for Random Logic Design using silicon gate technology. This methodology did not exist at Intel or anywhere else until he developed it in 1970. It set the style of design used for all early generations of microprocessors at Intel.

He also created a very innovative layout and invented many special circuits, for example: a static MOS shift register, a new type of counter and a new automatic power-on reset circuit (US patent 3,753,011).

He demostrated that the 4004 could be used for applications other than calculators and vigorously campaigned inside Intel to make the 4004 available to the general market.

Two patents cover Intel's MCS-4: patent no. 3,821,715, Memory System for a Multi-Chip Digital Computer, in the names of Ted Hoff, Stan Mazor and Federico Faggin (filed January 1973, granted June 28, 1974); and patent no. 3,753,011, power supply settable, bi-stable circuit, in the name of Federico Faggin (filed March 13, 1972, granted August 14, 1973).

After designing the 4004, Federico Faggin intensely promoted within Intel the broad commercialization of microprocessors, which at the outset were only custom products, to the general market. He was in charge of the design and development of all Intel's early microprocessors: the 4004, 8008, 4040 and 8080. He conceived and defined the architectures of the 4040 and of the 8080, and supervised their design and development. He presented his architectural proposal for the 8080 to management in early 1972, urging his boss to start the project in earnest, but management wanted to ascertain the market reaction to the recent introduction of the 4004 and 8008 before committing additional resources. Nine months of competitive advantage were thus lost due to this indecision. Intel was then a semiconductor memory company and microprocessors were not a priority. The silicon gate design methodology and the novel layouts created by Faggin for the 4004 provided a source of techniques and implementation examples that were subsequently used at Intel and other companies for the design of complex random logic chips. Faggin left Intel in 1974, to start Zilog.

The Intel 4004 is a 4-bit central processing unit (CPU) released by Intel Corporation in 1971. Sold for US$60 (with a lot of inflation, equivalent to $430 in 2022, $449.43 in 2023)

A LITTLE HUMOR

Outside a small Macedonian village close to the border between Greece and strife-torn Yugoslavia, a lone Orthodox nun keeps quiet watch over a silent convent. She is the last caretaker of a site of significant historical developments spanning more than 2,000 years. When Sister Maria Cyrilla of the Order of the Perpetual Vigil dies, the convent of St. Elias will be closed by the Eastern Orthodox Patriarch of Macedonia. However, that isn't likely to happen soon, as Sister Maria, 53, enjoys excellent health. By her own estimate, she walks 10 miles daily about the grounds of the convent, land which once served as a base for the army of Attila the Hun.

In more ancient times, a Greek temple to Eros, the god of love, occupied the hilltop site. Historians say that Attila took over the old temple in 439 A.D. and used it as a base for his marauding army.

The Huns are believed to have first collected and then destroyed a large collection of Greek legal writs at the site. It is believed that Attila wanted to study the Greek legal system and had the writs and other documents brought to the temple. Scholars differ on why he had the valuable documents destroyed - either because he was barely literate and couldn't read or because they provided evidence of democratic government that did not square with his own notion of rule by an all-powerful tyrant.

When the Greek Church took over the site in the 15th Century and the convent was built, church leaders ordered the pagan statue of Eros destroyed, so another ancient Greek treasure was lost. Today, there is only the lone sister, watching over the old Hun base, amidst the strife of war-torn Yugoslavia, and when she is no longer, the story will be over. That's how it ends:
 No Huns, no writs, no Eros, and nun left on base.

North Orange County Computer Club

Dr. Donald Armstrong
709 Rosarita Drive
Fullerton, CA 92653

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)	180
Business Member + Ad (¼ Page, ½ Page)	465, 800
Business Member + Ad (Full Page)	1,475
Contributing Member	75
Supporting Member	100
Advocate Member	250
Patron Member	500

Directions to the NOCCC meeting location

Irvine Hall ===>

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 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!