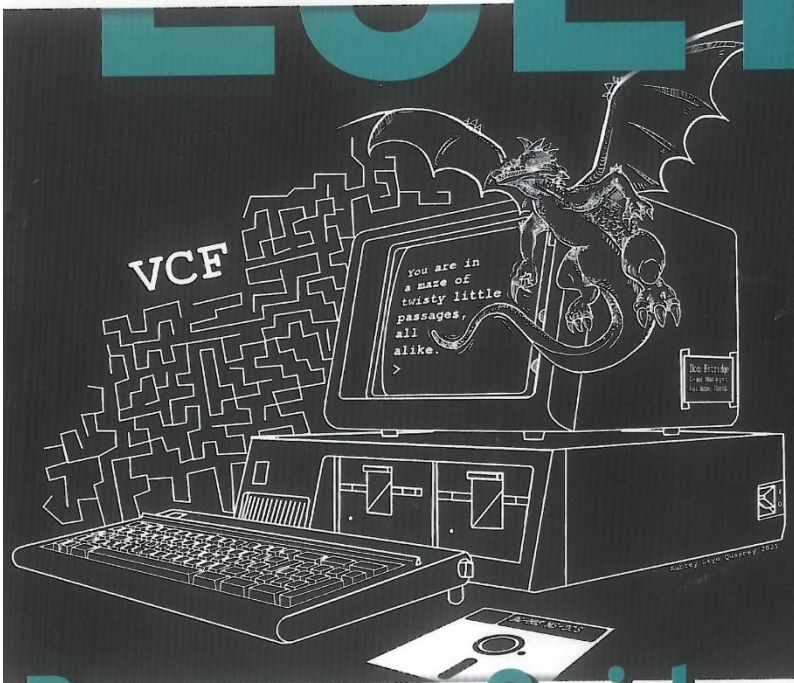


# 2021

## Vintage Computer Festival West



# Program Guide

# Show Schedule

## Saturday

10:00 - 10:30

**Show Open, Intro and Welcome** – VCF Staff

11:00 - 12:00

**IBM 1401 Demo** at CHM 1401 Lab

12:00 - 1:00

**Back Into the Storm** – *Bil Herd (Virtual)*

Bil Herd and Margaret Moribito discuss writing their new book with Earl Evans from Retrobits: "Back Into the Storm, A design engineer's story of Commodore computers in the 1980's".

1:30 - 2:30

**"Inventing the Future" New book about the Xerox Star. Not your standard history book!** – *Bob Purvy*

Bob Purvy (pen name "Albert Cory") has a new book about the Xerox Star, covering 1977-1981. He was one of the original developers. Unlike nonfiction histories with hindsight, e.g. Dealers of Lightning, Inventing the Future is a novel, with fictional characters but real events. It puts you inside the Revolution, where you don't know how it turns out!

2:30 - 3:30

**PDP-1 Demos** at CHM PDP-1 Lab

3:30 - 4:30

**C256 Foenix** – *Stefany Allaire (Virtual)*

The C256 Foenix from concept to finished product, including explanations of the VICKY II Graphics Engine and some new developments.

4:30 - 5:30

**From Satellite Communication to WalkMacs: The Legacy of Chuck Colby** – *Bruno Marchon, Mike Moore, Daniel Kottke, Boris Shpitser, Steph Stryphonas*

An overview of the "Colby" project followed by Q&A with a panel comprising Bruno Marchon, Mike Moore, Daniel Kottke, Boris Shpitser, Steph Stryphonas.

6:00

**Show closes**

## Sunday

9:00

### Show opens

9:30 - 10:30

#### History of computerized Tic Tac Toe -- *Bob Roswell*

A history of the game that seems to have been implemented on every computer ever built.

11:00 - 12:00

#### IBM 1401 Demo at CHM 1401 Lab

12:00 - 1:00

#### Floppy Disks -- The Ultimate Commodore 1541 Disk Drive Talk -- *Michael Steil*

This talk discusses floppy disk drives, with the 5.25" Commodore 1541 as a case study. We discuss the history of magnetic recording formats, how data is represented on a disk and how it gets from the drive to the computer. We also talk about fast loaders, alternate recording formats, copy protection schemes, and how to preserve disks using modern tools.

1:00 - 2:30

#### Bill Mensch -- The Genesis and Evolution of the 6502 Family -- *Stephen Edwards, Bill Mensch*

Covering the MOS Technology story including Chuck and Bill leaving

Motorola, the development of the 6502, and its early success in the marketplace. Topics will also include Commodore days, the 65C02, the formation of WDC, the 65C816, and a little about the current state of the 6502 and its derivatives.

2:30 - 3:30

#### PDP-1 Demos at CHM PDP-1 Lab

3:00 - 4:00

#### Recovering "lost" floppy discs with an oscilloscope -- *Chris Evans*

Floppy discs have lasted decades longer than expected. But by now, many have started to fail. In this talk, we'll look at a few discs that are unreadable even with modern low-level tools such as a Greaseweazle. Can we recover corrupted or decayed data by attaching a modern oscilloscope directly to a disc drive, and what are the limits?

4:00 - 5:00

#### How the PC has changed teaching and learning -- *Liza Loop*

A deep dive into the history of computing in education from one of the pioneers on the topic.

5:30

### Show closes

### Closing Remarks and Awards Load Out

# Exhibitors

VCF exhibitors put amazing effort into displaying their favorite historic computing systems. Be sure to visit them all, ask questions, play, learn, Tweet, and take lots of pictures! Perhaps you'll be inspired to exhibit your own pride-and-joy at VCF West 2022 next year.

#### NOVA 445 Computer

*Steve Toner, Cayucos, CA*

A demonstration of a homebrew 16-bit Data General Nova-compatible microcomputer based on the Fairchild F9445 CPU including a TTY interface, a 480x240 monochrome graphics display and a Paper Tape Reader emulator which allows loading of several fun demo programs.

#### Networking with CP/Net

*Jay A Cotton, Livermore, CA*

CP/NET, a network operating system based on CP/M, allows microcomputers to share and transfer disk files, to share printers and consoles, and to share programs and data bases. Our demonstration will show how far ahead CP/M was in 1982.

#### Early Hand Writing Recognition: Newton vs. Treo

*Thomas Conrad, Morgan Hill, CA*

A look into the quality of the Newton and Treo handwriting recognition.

#### The 4004 Processor: 50 Years Ago and Going Strong

*Dwight Elvey, San Jose, CA,  
with Jin Tao Lee*

Check out the SIM4-01, an early commercial application of the Intel

4004, the first commercially produced microprocessor on its 50th anniversary.

#### Analog Computing in the 1960s.

*Joe Fredrick, Palo Alto, CA, with  
Mike Cheponis, Santa Clara, CA*

Our exhibit shows two examples of general-purpose analog computing: a restored HeathKit EC-1 vacuum-tube computer, circa-1960s, and a restored Comdyna GP-6 transistorized computer, circa 1968.

#### Roc80

*Jim Miller, Sunnyvale, CA*

Learn how to design hardware to emulate 80s computers and game consoles using modern microcontrollers.

#### Silicon Graphics Inc: Homecoming

*Nicholas Bustamante, Fair Oaks, CA,  
with Avery Lins*

We will have an example for every generation of SGI machine, including some rare accessories from late 1980s to the early 2000s.

#### Apple-1 and Apple II Rev. 7 Replica Demo

*Logan Greer, Clovis, CA, with  
Austin Loyd, Fresno, CA*

Check out the display of the capabilities and features of the Apple-1 Replica board and Apple II Rev. 0 Replica boards.

#### C64i

*Francis Bernier, Noe Valley, CA*  
Showcasing a brand new motherboard for the C64 that uses the original CBM custom chips but adds many features and replaces old circuits with new and improved ones.

#### Postponing Obsolescence With Early IBM PC's + Using IBM Terminals

*William Murray, Los Angeles, CA*  
Showcasing some early IBM PC's with extreme upgrades to demonstrate how much further users could upgrade their machines back in the day (e.g. 8088 to 586). Expansion cards include: original floppy controller, ATI VGA Wonder +, XT-CF, Sound Blaster 2.0, Intel Inboard 386/PC (with 4MB expansion, Transcomputer 486HPi, and Cyrix 5x86 x4). This exhibit will also to showcase early IBM terminals, including the IBM 5250 and IBM 5251 connected to modern computers.

#### ... but can it run Doom?

*Zachary Hardesty, Fair Oaks, CA, with Michelle Hardesty*  
Answering that age old question "can it run Doom?" by using expensive machines that probably shouldn't but can (no x86/Intel allowed).

#### Quake Zone

*Chris Satterfield, Fairfield, CA*  
Here at Quake Zone, we love ourselves some Quake. But do you know what else we love? Vintage Workstations. By combining these two forces we've created the ultimate 90s LAN party. With everything from SGI to Sun to Daystar, we've come up with a way to spend the absolute most money possible just to run Quake! The game is multiplayer across all the machines, so bring your friends!

#### DEC VT100-Series Systems

*Eric Pruitt, Mountain View, CA*  
A showcase of various DEC systems

built into the VT100 chassis.

#### The Compact Macintosh Garden

*Steve Brunwasser, San Jose, CA, with Morgan Cabral, Cupertino, CA*  
A collection of various compact Macintosh computers from 1984 to 1996.

#### Forth and Moore

*David Henderson, Tempe, AZ*  
This hands-on exhibit features variations on Chuck Moore's Forth language based on eForth, Forth-79 and fig-Forth running on vintage systems including the Cantab Jupiter Ace 4000, Open University Hektor II, IBM PC 5150, Commodore 64, AIM 65 and Apple IIe.

#### Early Apple Items

*Jon Siefken, Boston, MA, with Bobby Livingston*  
Various early Apple items including two or three signed by Steve Jobs.

#### Colby Computers

*Bruno Marchon, Palo Alto, CA, with Bris Shpitser, Stephan Stryphonas, and Mike Moore*  
A showcase of recently restored computers and prototypes from Chuck Colby's estate with additional corporate information about the "Colby Systems" company he created in the 1980s which was noted for developing a line of Macintosh conversion computers.

#### From Apple 1 to LearningQuest

*Liza Loop, Guerneville, CA, with Stefano Ferilli, virtually from Bari, Italy*  
See the first sold Apple 1 computer in person and hear about the journey from there to the Knowledge-based Environment for Personalized Learning using an Artificial Intelligence Recommender (KEPLAIR).

## Exhibitors, continued...

#### 1970s/80s Microprocessor Based Electronic Scales

*Francis Bauer, Santa Rosa, CA*  
Working examples from pioneering Electronic scale manufacturer NCI (National Controls Inc.). Included are scales utilizing the following microprocessors: Intel 4004, Intel 8035 and Signetics 2650.

#### MakerLisp Machine

*Luther Johnson, Chandler, AZ*  
The MakerLisp Machine is a portable, modular computer system, designed to recapture the feel of classic computing, with modern hardware.

#### Novasaur

*Alastair Hewitt, Wakefield, MA*  
The Novasaur is a full-featured personal computer built from less than three dozen Advanced Schottky TTL chips (circa 1979). It supports an 80-column VGA text display, PS/2 keyboard interface, programmable sound generator, RS232 serial, and an Intel 8080 byte-code interpreter. The machine is capable of running early 80's computer games and even CP/M using a built-in 250k RAM disk.

#### Retro PC Expansion Cards

*Eric Schlaepfer, Sunnyvale, CA*  
Come and see the legendary Snark Barker ISA sound card, the Snark Barker MCA (Micro Channel edition), the Graphics Gremlin ISA video card, and other modern expansion cards designed to run in vintage systems.

#### Rare Computers from Japan

*Duncan Mac Dougall, Santa Clara, CA, with Alex Cmaylo and Thomas Daede*  
Japan had its own world of personal computers that, while popular in their native land, did not reach Western shores. This exhibit aims to show several different running examples

of these impressive platforms that most of the West missed. We will be demonstrating several playable examples of an X68000, as well as several PC-98 systems, an MSX2+, a PC-88, and at least one FM-TOWNS.

#### Amiga ROM Upgrades and Other Hacks

*Stefann Reinauer, Mountain View, CA*  
Learn how I redesigned the Amiga ROMY hardware (to allow larger ROMs on A3000 and A4000 (without soldering on your Amiga!))

#### Acorn RISC Machine (ARM) and the BBC Micro

*David Glover, San Jose, CA, with Acorn User Group SF Bay Area*  
Meet the Acorn Archimedes - the first personal computer range featuring an Acorn RISC Machine (ARM) processor - the original reference design for which was created in BBC BASIC by the legendary Sophie Wilson. Also exhibited are examples of the influential British 8-bit BBC Microcomputer which started it all.

#### Electronic Patterning On a 1985 Knitting Machine

*Adrienne Hunter, Santa Clara, CA, with Reba Siero, Martinez, CA*  
See the 1980s technology for designing a knitting pattern on a TV screen to knit it using a vintage microprocessor-enabled knitting machine and see how an Arduino-based update brings these old machines into the 21st century.

#### IBM 1620 Jr. - Project Epilogue

*Dave Babcock, Simi Valley, CA, with Steve Casner, Sunnyvale, CA, and Joe Fredrick, Palo Alto, CA*  
Begun in the fall of 2016, the IBM 1620 Jr. project is nearing its end. This will be the team's fifth and final VCF sharing the progressive work on the project. All physical & electrical aspects of the project are complete and the final software & documentation work is underway.

(Continued...)

The goal of the CHM-sponsored, IBM 1620 Jr. project was to produce a robust, operational version of the IBM 1620 Model 1 Level F computer and IBM 1622 Card Read Punch that recreates, as much as possible, the experience [physically, visually, and viscerally] of operating a real IBM 1620. A side project produced a general-purpose, ASCII, printing terminal, Cadetwriter, usable with any computer system. Come, see, and operate a 1960's IBM 1620 at its final VCF appearance.

#### **The Brewing Academy**

*Marlin Bates, Woodland, CA, with Eric Skiles, Rohnert Park, CA, and David Tipton, Goleta, CA*

A good percentage of The Brewing Academy's warehouse of goodies will be available for purchase. We will have something for everyone (I mean, within reason, we draw the line at the Altair :-). Will have Atari 800/XL/XE stuff, including the 1088XLD and the 576NUC+ on display and for sale. The TI 99/4a TIPI and accessories. VectorBlade for the Vectrex, 2600-UNO for the 2600. The Ultimate cart for the Atari, Mouse adapters for the Jaguar, more if we can fit it in the van!

#### **Live Recapping Demo**

*Arion Paylo, San Mateo, CA*

A live demonstration of vintage circuit board capacitor replacement, trace repair and cleaning. See the detail up close with a microscope camera connected to a large TV.

#### **Atari 8-bit Computers into the Future**

*Kevin Lund, Livermore, CA, with Bob Woolley, Placerville, CA, Robbie Bridges, Fremont, CA, Bill George, San Ramon, CA, Richard Diez, Pleasanton, CA, and Garrett Holthaus, San Jose, CA*

The SLCC (San Leandro Computer Club) will be exhibiting several new technologies for the Atari 8-bit line including to a laser printer, SIO2SD SD

card floppy drive emulator, HD Display, and the internet with a FujiNet device.

#### **Mainframe Services**

*Dan Hembry, Los Gatos, CA*

A re-creation of the Unix mainframe experience: sign up for an account, grab a serial cable, plug in your terminal, and login! Remote TTY service provided over RS-232 links. The 'mainframe' is a Raspberry Pi Zero running NetBSD, with custom USB-to-serial cards.

#### **IBM Midrange Systems**

*Ryan Schiff and Bob Roswell, Hunt Valley, Maryland*

Showcasing an IBM System/32, System/34 and System/36 and perhaps even an AS/400.

#### **Networked 8-Bit Computers for Gaming, Collaboration and Socializing**

*Mark Overholser, Adair Village, OR*

A demonstration of some 8-bit systems including the Commodore 64, the Apple II and the Tandy Color Computer (CoCo) networked together with Ethernet or WiFi to interoperate in a game or on the Internet connected to a system like IRATA.ONLINE or private servers for gaming.

#### **Friends of the Palo Alto Library**

*David Cortesi*

Selling used vintage computer books and magazines to benefit the Palo Alto Library.



# Hello, world!

**Welcome to the Vintage Computer Festival West 2021.** You're about to embark on a fantastic family-friendly adventure backward in time.

You will see and touch dozens of historic computers from many decades gone – everything from big iron to eight-biters. You'll also experience some creative new replicas, modern enhancements, and new retrothemed systems. You will meet some historic people, learn their insider stories, and perhaps pick up our nerdily awesome t-shirt! While you're here, remember to tour the amazing museum all around us: they're a terrific host and worth a return trip. Be sure to talk about us online: #vcfwest

Happy computing,

- The Vintage Computer Federation

Vintage Computer Federation

Vintage Computer Federation Inc. (vcfed.org) is a 501(c)3 non-profit organization for and by computer history enthusiasts. We evolved in 2015 from the DNA of related groups.

In addition to Vintage Computer Festival West, we also own VCF East (New Jersey each spring), and we are working hard on creating more events.

We're big fans of online collaboration. We own Vintage Computer Forum, which is the hobby's largest discussion site. There are thousands of users worldwide to help you with whatever niche of vintage computing you prefer.

We also support in-person meetups through regional chapters. Our founding chapter in the U.S. Mid-Atlantic region has its own hands-on computer museum! We are actively incubating new chapters and partnering with existing local groups to join the Federation.