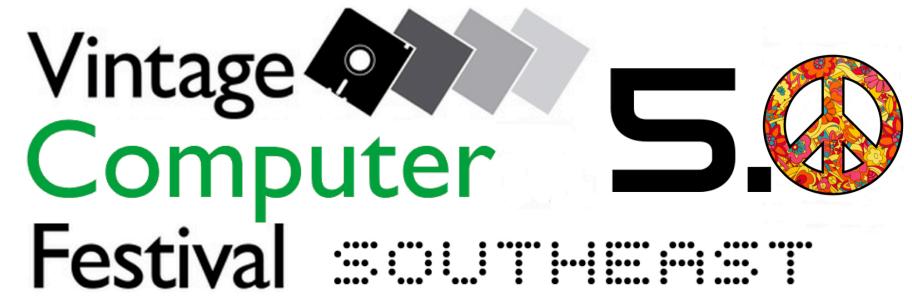




ATLANTA  
HISTORICAL  
COMPUTING  
SOCIETY



If you have any questions, need assistance, or  
need any additional information please ask AHCS  
members in **Red shirts**.

# Schedule

*Saturday, April 29<sup>th</sup> 2017*

08:15	-	10:00	Main Hall	Exhibitor / Vendor setup
		10:00	Show Opens	
10:00	-	19:00	Workshop Rooms	Beginner, Intermediate, & Advanced Soldering Workshops
10:45	-	11:00	Speaker's Hall	<i>Lonnie Mimms – Welcome from the Computer Museum of America</i>
11:00	-	12:00	Speaker's Hall	<i>Andy Hertzfield – Stories of the Apple II</i>
12:30	-	13:30	Lunch Break	
16:00	-	17:00	Speaker's Hall	Auction!!
		19:00	Show Closes	

*Sunday, April 30<sup>rd</sup> 2017*

		10:00	Show Opens	
10:00	-	17:00	Workshop Rooms	Beginner, Intermediate, & Advanced Soldering Workshops
11:00	-	12:00	Speaker's Hall	<i>Don French – Stories on the History of the TRS-80</i>
12:00	-	13:00	Lunch Break	
13:00	-	14:00	Speaker's Hall	<i>Chuck Peddle (via Skype) – The 6502 to the PC.</i>
		17:00	Show Closes	
17:00	-	19:00	Main Hall	Exhibitor / Vendor tear-down

**Not your father's database, your grandfather's.** — Ed Fair (Tucker GA)

A show-and-tell exhibit where you'll hear from Ed on indexing data from the 30s, bc. (before computers). He will talk about the art of indexing a punched card deck and how that led to greater things. He do this show and tell with a 1950s card sorter and a 1930s card interpreter. You will walk away having learned about technology you may not have known anything about before.



AHCS would also like to thank the Computer Museum of America for their help and assistance (and their two wonderful exhibits, the Apple Popup and Links) at this year's event. As always, we appreciate them graciously sharing the CompUSA space with us and look forward to what they might exhibit at next year's event!

## Speakers

### Lonnie Mimms



From a very young age, Lonnie was interested in electronics. He started playing with Radio Shack kits in the early 1970s. By the age of ten, he gained access to an IBM 360 and was writing programs in APL. In the mid-70s, he and his best friend would go to the Rich Computer Center at GA Tech and spend entire Saturdays writing programs and playing games on the Cyber 74. In 1977, his father purchased a Processor Technology Sol-20 microcomputer. Lonnie became proficient at using the Sol and wrote many real estate programs to help in the family business. In 1979, the family built the headquarters building for Chromatics Inc. in Tucker, GA. From this relationship, Lonnie received a refurbished Chromatics computer, which was state of the art at the time. Over the next few years, he continued to hone his programming skills and entered GA Tech as a student in 1980, majoring in Electrical Engineering. After graduating, he entered the family real estate business where he continues to work as the CEO. Lonnie has always been a collector and kept all of his early computers, which were the inspiration for him to start his collecting. He is the founder of the Computer Museum of America.

### Andy Hertzfeld

Andy Hertzfeld purchased an Apple II in January 1978, serial number 1703, which quickly took over his life, leading him to start working at Apple in August 1979. He joined the nascent Macintosh team in February 1981, and became one of the primary authors of the original Macintosh system software, including the User Interface Toolbox and many of the original desk accessories. He left Apple in March 1984, and went on to co-found three companies: Radius (1986), General Magic (1990) and Eazel (1999). In 2003, he developed a web-based system for collective storytelling (<http://www.folklore.org>), and used it to write anecdotes about the development of the Mac, which were collected in the book "Revolution in the Valley", published in December 2004. In August 2005, he joined Google and worked there until he retired in 2013.



## Don French



Don French is credited as being the driving force behind the TRS-80 line of Personal Computers. He purchased a MITS Altair kit computer then began designing his own and proposed to the VP of manufacturing at Radio Shack the idea of selling a microcomputer. He hired Steve Leininger and the two began working together in 1976 building what would become the TRS-80 Model I. It was unveiled in 1977 and by 1980 InfoWorld described Radio Shack as "the dominant supplier of small computers". Don left Radio Shack in 1978 to found Applied Data Corp which implemented software (including porting CP/M and all Microsoft Products) to the TRS-80. After this company was acquired by Lanier Business Products, he went on to found three more companies that focused on Physician Management Systems. He retired from Optio-Software in 2008, but still continues consulting in the medical field and creating software for the hospitality and gaming industries.

## Charles "Chuck" Peddle

Charles "Chuck" Peddle is an American electrical engineer best known as the main designer of the MOS Technology 6502 microprocessor; the KIM-1 SBC; and its successor the Commodore PET personal computer, both based on the 6502. He received a BS in Engineering Physics from the University of Maine after serving in the Marine Corps. He then went to work for General Electric working with time sharing systems.



Later, he worked at Motorola from 1973 on the development of the 6800 processor. Chuck recognized a market for an ultra-low-price microprocessor and began to champion at Motorola. His efforts were frustrated by management and he was told to drop the project. He then left Motorola for MOS Technology (which was later purchased by Commodore). There he headed the design of the 650x family of processors; these were made as a \$25 answer to the Motorola 6800. The most famous member of the 650x series was the 6502, developed in 1976, which was priced at 15% of the cost of an Intel 8080, and was used in many commercial products, including the Apple II, Commodore VIC-20, Nintendo Entertainment System, Atari 8-bit computers and arcade video games, Oric computers and BBC Micro from Acorn Computers. The 6502 microprocessor design was also modified to support other computers while maintaining backward compatibility. The 6507 was the CPU of the Atari 2600. The 6510 was used in the Commodore 64. Chuck left Commodore in 1980 together with CBM financier Chris Fish to found Sirius Systems Technology. There, Peddle designed the Victor 9000 personal computer. Chuck continues to be active in the computer industry and is still designing chips to this day.

## *The Apple II – The Path Forward* — Jennifer Pierce ( Atlanta GA )

This exhibit will have an early Rev I Apple II with a Panasonic tape deck, Novation Cat acoustic modem and monitor along with informational descriptions of this highly advanced (for its time) tech along with copies of the sales brochures and pricing lists of the time for display/question. Also available will be a later Apple II+ available for people to play games with. We hope to help educated visitors who are less than 30 years old about how far we've progressed since the start of the personal computer revolution in the era of the Apple II

## *A PDP-8/a running CP/M* — Doug Ingraham ( Rapid City SD )

In 1976 I wrote an 8080 emulator on a Straight 8 which was never completely debugged. The source for this was recently discovered and I was able to finally debug the code. This will be demonstrated on a PDP-8/a with an RX01 floppy drives and 32k of core. The system was originally built around 1980 with the CPU chassis from an accounting system used at a photo processing company in Sioux Falls SD and the floppy drives from a CLassIC 8/a believed to have been used at the University of Arizona, Tucson. (I still own the straight 8, but the PDP-8/a is a bit more portable). The system being emulated is an Intel 8080 with 42k of ram running CP/M at approximately 1/60th the speed of a 2mhz 8080. The question of why I did this may forever be a mystery to others but I know the real reason and we can discuss this and other PDP-8 topics at my exhibit.

## *Home Video Games : 1972-1989* — Eric Lyons ( Roswell GA )

The first four generations of home video game consoles are the foundation for the sophisticated and immersive home video games of today. A sample console will be on display from each generation: Pong, Atari 2600, ColecoVision, and the Nintendo Entertainment System. Perspectives for the hardware, market success, and cultural impact for consoles in each generation will be outlined.

## *The Epson QX-10* — Mickey Dossey ( Roswell GA )

This display will showcase what was billed in 1982 as the world's easiest to use personal computer (or the friendliest computer), The Epson QX-10. We will be demonstrating a working unit with its specialized keyboard and custom integrated software, Valdocs

## **Atari Demonstration Center — Brad Arnold ( Lawrenceville GA )**

A loose replication of the Atari Home Demonstration Centers that were set up to provide information about and let potential customers see and touch an Atari Home Computer.

William Lange, Randy Kindig and Brad Arnold will have various models of the Atari 8-bit line of computers available for demonstration.

## **Laboratory Computing — Kyle Owen ( Madison AL )**

Analog computers often found their way into the laboratory, solving differential equations faster than the digital computers at the time with some level of accuracy. However, digital minicomputers were getting cheap enough to have maybe even several in a lab for instrument control and automation of test equipment and apparatus. If the stars align, on display will be a Hitachi 303 vacuum tube analog computer, an HP 2116C digital minicomputer, and a PDP-8/M digital minicomputer.

## **Calculators and Other Things with Keys — Ben Bradley ( Jasper GA )**

On display will be handheld calculators ranging from pre-TI and pre-HP to modern day, a few select mechanical “clicky” keyboards, and possibly other items operated by depressing keys. Also shown will be handheld analog calculators, mathematical table handbooks and related literature.

## **A History of Word Processors — Nolan Gilmore ( Macon GA )**

Come see the history of how we recorded our information throughout the 20th Century. You will see a timeline starting with typewriters all the way to (relatively) modern Word Processing Software. Some items on display will include a circa 1914 Royal visible typewriter, and IBM Selectric typewriter, and a Macintosh 128k running MacWrite.

## **Viva Amiga Panel — The Amiga's Past, Present & Future.**

### **Adam Spring — Moderator**

Adam is the author of *Retrospective Computing and Consumer-Led Development*, that appeared in IEEE Annals of the History of Computing and Computing Edge Magazine in 2016. His pathway to becoming a renaissance man of reality capture based technologies stemmed from his formative years in the UK based computing scene of the 1980s and 1990s. Adam is also the presenter of the Remotely Interested Podcast (RIP); the author of many peer reviewed and industry articles; as well as a Visiting Lecturer in Digital Cultures, Humanities and Science.



### **Panel**

#### **Glenn Keller**



Glenn became a chip designer under the guidance of Jay Miner. His life in computing includes the Paula sound chip for the Amiga Computer. Glenn also worked with Commodore on the AAA chipset, as well as helping RJ Mical and Dave Needle bring the Handy (Atari Lynx) and 3DO gaming machines to life. He has a M.S. in Ocean Engineering

#### **Zach Weddington**

Zach is an independent filmmaker and media professional with a passion for 1980s culture. He got his first Amiga at age 12, used it to teach himself computer animation, and never looked back! Ever since then he's been dedicated to using computers for creative expression. *Viva Amiga* is his debut film.



#### **Trevor Dickinson**



Trevor has had a long and successful business career and, as a Business Angel Investor, has investments in a diverse range of companies covering many industries. However, his hobby and passion is the Amiga computer. He is an avid Commodore and Amiga collector and, as the co-founder of A-EON Technology, has worked tirelessly to help to keep the Amiga dream alive. Although he has a particular fondness for the Classic AmigaOS and AmigaOS 4 he is also interested in all Amiga-inspired flavours including MorphOS, AROS & Icaros Desktop and Amiga emulation under WinUAE, AmigaForever and AmiKit. In recent years he has even begun exploring the wonders of Linux, especially when installed on next-generation PowerPC Amigas systems.

### Aaron Ruscetta — Panelist

Aaron attributes any media production / computing skills or expertise he may possess to community education and apprenticeship, mostly through emersion in the broadcast television, Amiga and Linux FLOSS communities. He experienced the transition from analog to digital media first hand and has a career path that has had numerous job titles including : audio engineer, television director, video editor, college educator, graphic artist, animator, effects designer, facilities manager, network engineer, webmaster and programmer. He was also President of Amiga Atlanta Incorporated.



### Hands On Exhibits

#### Atari Video Gaming Wall

Always a favorite, the Atari Video Gaming Wall returns. Featuring authentic, 40 year old Atari 2600s, the Video Gaming Wall allows you to relive the fun games of your youth. Or for those younger than 40, you can experience what 8-bit gaming was like in the 70's. The processor inside the 2600 is the MOS Technology 6502 (6507), the same chip that was used in the Apple I and II, Commodore PET and VIC-20, and early single board computers. Using only 4 KB of cartridge ROM space, the 2600 tested the limits of light, sound, and gave many a youth hours of relaxing game play. Often imitated, but never, oh wait, yes – it was duplicated, a lot!

#### Learn to Solder!

So, you feel inspired by all of the vintage 8-bit computers on display at the Vintage Computer Festival Southeast? Why not get yourself your very own 8-bit computer kit from the concessions stand, and build your own like 1975? We have an assortment of 8-bit computer kits that range from Random Blinky boards to full functioning wrist watches. Kits range from \$5-\$25. Each of our kits contain a modern 8-bit Atmel processor and are pre-programmed in BASIC for their various function. BASIC reprogramming kits are also available for \$10 that include the software and USB programmer that allow you to re-purpose your kit for whatever purpose you dream up! We will have a dozen soldering irons hot and ready for you to use. There will be knowledgeable staff ready and willing to help you learn to solder, improve your skills (or even de-solder). We charge nothing for this service.

### TI-99/4A Modern developments — Jon Guidry ( Dacula GA )

This exhibit will showcase modern TI upgrades including :

- Newer cartridge boards (ROM boards + UberGROM boards)
- The F18 VGA Upgrade
- The new TI Mega Demo (2017)
- The TI Break Free cartridge
- RASMUS Game compilation cartridge
- The Nano PEB (not really new, but cool to show)
- The HxC Floppy emulator on a TI

### Homebrew Bulletin Board System (BBS) — Jeff Stokes ( Duluth GA )

The main focus of this exhibit is a home made BBS and BBS Creation Library for the Commodore 64/128. The BBS and support library are written in C using a cross development environment consisting of CC65 C Compiler and a PC. Other machines on exhibit include a Commodore 128 running GEOS 64/128 and my vision of the ultimate development Amiga 500 (circa 1988) with KickStart 1.3 ROM, 9MB RAM, four 950MB SCSI hard drives, a flicker fixer and two 880K floppy drives.

### The Premium Sound of 90's PC's — Bobby Blackwolf ( Kennesaw GA )

When most people played PC games in the early to mid 90's, they heard either bleeps and bloops from the internal speaker, or low-fidelity MIDI from an Adlib-compatible sound card. However, there were premium sound options for those lucky enough to have them. The Roland MT-32 provided production quality MIDI sound to even EGA-based games from Sierra On-Line and others, and the Gravis Ultrasound gave a massive sample-based musical boost to the Demoscene of the era. This exhibit will feature a Pentium-166 running MS-DOS 6.22 with either a Roland MT-32 playing old Sierra adventure games or a Gravis Ultrasound Classic sound card playing early 90's PC Demos from Future Crew, EMF, Triton, Complex, and more.

## **Retro Japanese Computers** — Thomas Liebert ( Cumming, GA )

This year my friend, Olivier and I will be showcasing various Japanese Retro Computer hardware and software from the following platforms: MSX, NEC PC-98, and the Sharp X68000.

## **Experience the Texas Instruments TI/99-4a** — Mark Little ( Atlanta GA )

This display celebrates the 36th year since the official introduction of the Texas Instruments 99/4a Home Computer (June 30, 1981 in Chicago), the home micro-computing market's first true 16-bit machine. This interactive display includes: one working TI 99/4a console (classic silver/black) with a working Speech Synthesizer; one working TI Program Cassette Recorder; one working Peripheral Expansion Box with 32k Memory Expansion and two half-height floppy drives; one pair of original TI remote controllers (joysticks); at least ten command module (cartridge) games for anyone to play, including popular favorites Parsec, Munchman, and Buck Rogers (all in original boxes); and various software on 5 1/4" floppy disks, manuals and books related to the TI 99/4a. In addition, take-one hand-outs are also available outlining the timeline of the TI 99/4a's history, from its inception as an improvement to the beleaguered TI 99/4 in 1981, through to the price wars with Commodore in 1983 that forced its abrupt withdrawal from the home computer market in 1984. Finally, this year's exhibit features a working Texas Instruments CC-40 Compact Computer, TI's final home computer, which was manufactured for less than a year beginning in March of 1983.

## **Arcade game circuit boards** — Andrew Henderson ( Kennesaw GA )

Arcade games were extremely popular in the 80s and continued to be popular throughout the 90s. Come take a look at the computer boards that powered these games! Learn about arcade standards such as JAMMA. Three to five playable setups will be made available for attendees to actually play some of these games! History and specs of each game board will be detailed.

# **Registered VCF SE Exhibits**

## ***The clicky-clack Tic-Tac-Toe Computer! (1961)*** — Jim B. Steiner (Atlanta, GA, United States)

Jim returns with a show favorite, the Tic-Tac-Toe computer! This device was designed from scratch, using parts and electromechanical relays from 6 pinball machines (and a piece of furniture). The computer started as a project for the high school humanities class, but when the science fair coordinator heard of it, he encouraged Jim to finish it in time to enter it in the school science fair. Additionally, Jim was further inspired by the 1960 winners, the inspiration for the movie "October Sky" Rocket Boys from the small town of Coalwood, West Virginia. Needless to say, their success led him to have it finished in time to enter the school science fair. The Tic-Tac-Toe Computer then progressed from the High School Science Fair to the Regional Science Fair and to the State Science Fair. Come see it in operation and try your luck at beating it!

## ***The Personal Computer Trinity 40th Anniversary*** — Earl Baugh (Johns Creek, GA)

This exhibit will display three significant machines that made a large impact on personal computing and are celebrating 40th anniversaries in 2017 — The Radio Shack TRS-80 Model I, The Apple II and the Commodore PET. We will be attempting to run "Space Invaders" versions on all three machines.

## ***Graphical User Interface History*** — Nathan Lineback ( Marietta GA )

A history of the Graphical User Interfaces including interactive demonstrations of VisiCorp Visi-On, Microsoft Windows 1.0, and others.

## ***Commodore PET*** — Ghanshyam Suhagia ( Lawrenceville GA )

This exhibit will showcase a Commodore PET 4016 & 4032 and other Apple vintage product. Some of the machines are not currently working and will be for display only by Nano Info Technology, Inc.

### **Vintage Computer Federation — Evan Koblentz ( Wall, NJ )**

Vintage Computer Federation ([www.vcfed.org](http://www.vcfed.org)) is a national user group for computer history hobbyists. We formed in 2015 from the DNA of three related organizations. We're a 501(c)3 non-profit with thousands of members. We offer the Vintage Computer Festival East (springtime at our headquarters in New Jersey), Vintage Computer Festival West (summer at the Computer History Museum in Silicon Valley), and we're making plans for more events. Our group-owned collection is among the most comprehensive and accessible anywhere, containing everything from 1950s vacuum tube mainframes to 1980s eight-bitters. The collection is displayed at our museum in New Jersey and is open to the public several days a week. We emphasize the hands-on imperative. We also operate Vintage Computer Forum, which is the hobby's largest discussion board. We are working hard to announce even more hobby resources this year.

Here at the VCF Southeast, we're displaying Lego computerized robotics of the 1980s! The kit from 1986 was only sold to schools so it is largely unknown today, especially compared to the mainstream success of 1990s Lego Mindstorms. The 1980s version offered motors, lights, and sensors. You could program it in LOGO on an Apple //e or BASIC on an IBM PC. A follow-up version around 1987 allowed BASIC on the Apple platform, however this was only nominally supported. VCF members discovered 30-year-old bugs in the Lego control subroutines, and we lacked the vital Apple Lego card! Undeterred, we made our own routines which are simpler and use direct POKEs of each port on the Lego interface box, and we built a replica card. For travel purposes we're demonstrating the system using a Laser 128/EX (reverse-engineered Apple //c clone from 1988). We will show robotic control using Applesoft BASIC and the proprietary Lego LOGO which is derived from the original M.I.T. version.

### **Open VMS — David Kuder ( Warner Robins, GA )**

This exhibit will highlight the VMS operating system from Digital, later Compaq and HP. From how the VAX architecture evolved out of the PDP series, through to OpenVMS running on more modern hardware. The exhibit hardware includes MicroVAX 3500 and VAXstation 3100 m76 systems.

### **Mechanical Keyboards — Chris Tan ( Johns Creek GA )**

This exhibit will display vintage and modern keyboards with various keycaps to share and display. This will also be the meet up point for keyboard collectors from around the Atlanta area.

### **Microcomputer Reproductions — David Greelish — Johns Creek, GA**

There is software emulation of vintage computers, and then there's new hardware enhancement or replacement parts for the retrocomputing hobby. However, there are also complete reproductions of microcomputers which fall into two main categories, the look-alikes and the work-alikes. This display will feature reproductions of the Altair 8800, IMSAI 8080, Altair 680, SWTPC 6800, COSMAC "ELF" and the PDP-8/I minicomputer.

### **Before "Video" Games... — Peter Rittwage ( Martinez, GA )**

Before we had games we could play on a TV screen, we had "electronic games". Coleco, Mattel, and many other companies jumped on the bandwagon in the 1970's. These were very simple "computer" that played only a single game.

Many early electronic games will be displayed and available for play, including Merlin, Touch Me, Simon, Space Invader, Fire Away, Invader from Space, Hit and Missile, Bank Shot, Speak and Spell, Coleco Electronic Quarterback, Galaxian, Pac-Man of all kinds, Mattel Football, and many, many other 70's favorites

### **Go Forth into the Past — Brian Stuart ( Gloucester TWP, NJ )**

The Forth language, developed by Charles Moore was one of the most commonly used languages on small computers. Forth has been used for everything from boot monitors to controlling large telescopes and fusion research laser arrays. A fully functional system can be implemented in just a few K of memory. This exhibit features several different implementations of Forth running on a variety of architectures, including LSI-11, 6809, 68HC11, and SPARC.