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DEPARTMENT: EVENTS AND SIGHTINGS

Computer History Museum Update

Since our last update, deep in the throes of COVID, CHM has been busier than ever welcoming back visitors to our signature building beginning on May 11, 2022. Exhibits are now open regular Museum hours (Wednesday through Sunday from 10 a.m. to 5 p.m.)

MICROSOFT SUPPORTS CHM DIGITAL TRANSFORMATION

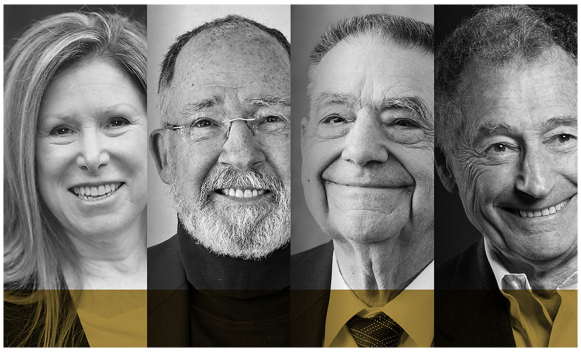
On our journey to transform CHM into a 21st century museum, we are updating and expanding our strategy, work processes, and perhaps most importantly, the technology that will enable CHM to share its historical resources and stories while engaging new audiences. With the generous support of Microsoft, including donations of new computers for every employee and a variety of software tools, we have created a robust infrastructure designed to help us to realize this vision.

As part of that plan, CHM has begun "OpenCHM," an ambitious initiative that harnesses the power of new computing technologies to make our collections, exhibits, programs, and other offerings more accessible, especially to a remote, global audience. OpenCHM got a boost when CHM was awarded a National Leadership grant from the Institute for Museum and Library Services in 2020 and support from the Gordon and Betty Moore Foundation. Funds seeded a one-year, rapid-prototype project that used Microsoft technologies to create a simple search portal for a selection of digitized materials from CHM's collections. We learned a lot about what is possible and how to move forward. With that project and others, we will continue to build on the strong foundation we have established with the help of Microsoft's deep industry experience and ever-evolving tools.

2022 Fellows Awards

The big event of 2022 was our Fellows Awards, celebrated in person at a fun gala program. Our 2022 Fellows are as follows.

- Don Bitzer: For pioneering online education and communities with PLATO and coinventing the plasma display.
- Adele Goldberg: For the promotion and codevelopment of the Smalltalk programming environment and for contributions that advanced the use of computers in education.
- Dan Ingalls: For the creation and codevelopment of the Smalltalk language and programming environment.
- Leonard Kleinrock: For his pioneering work on the mathematical theory of computer networks and roles in the ARPANET and in expanding the Internet.



CHM 2022 Fellows: Adele Golberg, Dan Ingalls, Don Bitzer, and Len Kleinrock.[1]

EVENTS

While Fellows is the most celebrated event of the year, the Museum hosted multiple lectures during 2022, covering a diverse range of topics.

True History of the Pixel

Computing graphics pioneer and Pixar cofounder Alvy Ray Smith explained exactly what a pixel is (spoiler alert: it is not a tiny colored square). For his new book, *A Biography of the Pixel*, Pixar cofounder Alvy Ray Smith drew on his decades of work in computer graphics to show how the pixel, and what he calls "Digital Light," has transformed business, art, and

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[1]Except as noted, images are courtesy of the Computer History Museum.

entertainment. An Academy Award winner, Smith invented some of the key concepts used in the field today and shared those insights to a sell-out CHM audience.

Innovative Computer Art: A Screening and Conversation

From the earliest days of electronic computers, people used them to make art: from drawings to poems, screenplays to paintings, and from music to films. Today, the computer has become an indispensable tool and medium for many diverse artists. The evening began with a stunning and very moving screening of selections from CHM's new exhibition, "Early Computer Films, 1963–1972," and a discussion by CHM curator David C. Brock and digital artist Camille Utterback, a Macarthur Foundation "genius grant" winner and professor of art at Stanford University.

Remarkable Sal Khan: Khan Academy Founder Shares His Story

"Free world-class education for anyone, anywhere." That is the ambitious mission of the popular online learning platform Khan Academy. Visionary founder Sal Khan, winner of the CHM Patrick J. McGovern Tech for Humanity Luminary award, was onstage at CHM in a rare appearance on June 1, 2022 to explain the origins and growth of Khan Academy and share his thoughts about where education is headed. Khan explored topics in the world of learning with two different interviewers—one an entrepreneur and technology forecaster, and the other a high school student.

Handspring Story: Aspirations and Disasters

In the late 90s, before the tech devices and companies we use today won the race, many different futures seemed possible. Nearly forgotten by history, a little startup called Handspring tried to make the future before it was ready. This event previewed the new 30-minute documentary *Springboard: The Secret History of the First Real Smartphone*, which tells the story of a small group of pioneers who sought to create a modern smartphone a decade before the iPhone was unveiled. Their aspirational journey came with outsize ideas, bad decisions, and a legacy that lives on in today's smartphones.

Revealing Lost Woman of Science Klári Dán Von Neumann

This was a panel with Katie Hafner, Thomas Haigh, and Harvey Mudd College President Maria Klawe. Searching in archives can reveal fascinating stories. One of them is the case of Klári Dán von Neumann, a truly "hidden figure" of computing. Unrecognized during her lifetime for her remarkable achievements, Klári was involved in the Monte Carlo simulations of atomic and thermonuclear explosions immediately after World War II. Like other women at the time, Klári worked in the shadow of a brilliant husband, John von Neumann, and experienced the shift away from female programmers as the profession gained prominence.

CHM hosted this talk with NPR and Hafner as part of their series, *A Grasshopper In Very Tall Grass*, Season 2, with five episodes about the life and work of Klári Dán von Neumann available now.

Power Law of Venture Capital: Decoding the Industry With Author Sebastian Mallaby

In this talk, *New York Times* bestselling author Sebastian Mallaby shared insights from his new book, *The Power Law: Venture Capital and the Making of the New Future,* a frank and intimate story of Silicon Valley's dominant venture-capital firms and how their strategies and fates have shaped the path of innovation and the global economy. After his talk, a panel discussed some of the most pressing challenges and opportunities for the venture capital industry, from expanding diversity and inclusion to advancing innovative business models.

Steward Band and Silicon Valley's Soul: Author John Markoff in Conversation With *New York Times'* Nicole Perlroth

Stewart Brand was one of the many visionaries to inspire technological and cultural revolutions over the last six decades—in counterculture, early computing, and the environmental movement. Pulitzer prize-winning *New York Times* reporter John Markoff discusses his new biography, *Whole Earth: The Many Lives of Stewart Brand*, and explored how Brand became one of the first to realize the significance of Silicon Valley.

Brand is perhaps best known for his iconic counterculture magazine *The Whole Earth Catalog*. Published from 1968 to 1971, the catalog, which offered essays and product reviews, sold millions of copies, won the National Book Award in 1972, and influenced an entire generation, including Steve Jobs, who adopted Brand's famous mantra, "Stay Hungry, Stay Foolish" as his code to live by. In the words of Markoff, it was a "mosaic of crazy stuff," from computers to how to make granola and everything in between.

NOVA Computers v. Crime: Discussion on AI and Criminal Justice With Film Highlights

In police departments and courts across the country, artificial intelligence is being used to help decide who is policed, who gets bail, how offenders should be sentenced, and who gets parole. But is it actually making our law enforcement and court systems fairer and more just? NOVA explored these questions in Computers v. Crime, an investigation into the hidden biases, privacy risks, and design flaws of this controversial technology. At this event were shown clips from the film followed by a great panel of leading experts in technology, science, and social justice discussing the film.

Smalltalk at 50

On September 1, CHM celebrated the 50th anniversary of the creation of Smalltalk in Alan Kay's Learning Research Group (LRG) at Xerox PARC. The lively evening included a Reunion and a public program exploring the impact of the iconic software. There was even archival footage of "the Smalltalk kids" and appearances by adult "kids" today.

Smalltalk revolutionized personal computing, graphical user interfaces, and programming languages. Smalltalk pioneers and 2022 CHM Fellows Adele Goldberg and Daniel Ingalls were on stage for this interactive discussion with moderator John Markoff, exploring Smalltalk's original mission, influence, and impact. Alan Kay added his special remarks virtually.

BLOGS

Apart from sold out live events, CHM produces groundbreaking historical studies of the events and people in the history of computing. Here are some blogs we published in 2022.

Ukraine's Software and Computer Museum

Russian attacks on the Ukrainian city of Mariupol have destroyed an important computer museum filled with Soviet-era artifacts. Other cultural institutions remain vulnerable, including the Software and Computer Museum, and that is personal for the author. During a visit to Silicon Valley a few years ago, the author and VP of Collections and Exhibitions Kirsten Tashev inspired Sergey Tsymbal and Anton Trubnikov to open their own museum in Ukraine and offered advice equal to what Sergey called "ten years of experience." The first Software and Computer Museum thus opened in Kharkiv, followed in 2018 by a branch in Kyiv.

Free to all, the Museum not only preserves computing history but also teaches tech skills to give people opportunities to improve their lives. Throughout Russian bombing, they have continued their classes online. Sergey and Anton keep in close touch with CHM, all fervently hoping the museum, warehouse, and archives will survive the war.

EXHIBITIONS

The big software history initiative for 2022 at CHM was the Art of Code program. This consists of releases of original source and design documents for a number of very high profile and successful types of software: Postscript, Smalltalk, and the Apple Lisa. There has been significant uptake, suggesting that there is a healthy community of people interested in historical software and source code.

The screening room, located at the entrance to CHM's Revolution exhibition, allows visitors to enjoy computer art and animation films from the CHM collection and on loan from partners. Now showing is our second production in the screening room since reopening: 'Music, film, computers,' which included five rare editions of Schwartz's films from the early 1970s, along with musical scores composed and created by F. Richard Moore from Bell labs.

The Studio, located in CHM's newly renovated flexible gallery space explores the topic of Tech + Creativity, past, present, and future. The informal playspace features three cutting edge AI-powered experiences on loan from partners allowing visitors to explore AI-augmented art, writing, and language processing, including:

"LiveBook AI: Write with AI," by Kevin Ashley, Microsoft; "Canvas GauGan: Turn Doodles into Stunning Landscapes," by NVIDIA; and "Solair-E: An AI-Powered Split Flap Computer," by artists Ben Flatau and Scott Bezek, in collaboration with OpenAI GPT3.

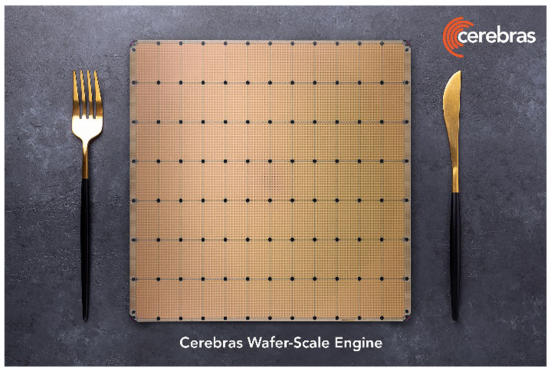
Biggest Chip in the World

You can see the biggest computer chip in the world on display at CHM. With 2.6 trillion transistors and consuming 20 kW of power, this dinner plate sized chip is breaking records on AI training datasets.

PLAYING GAMES

Minecraft: CHM Comes Goes Virtual

CHM has a new experience on the *Minecraft*: Education Edition game platform. "The Great Tech Story," is being used by educators in classrooms around the world to deliver educational content to students in a fun and engaging way. In just two months, there have



Cerebras CS-2 Wafer Scale Engine (2022). Courtesy of Cerebras, Inc.

been over 23,000 sessions played for over 6000 hours. That is a lot of gaming!

Created in collaboration with Microsoft and veteran world builders ReWrite Media, The Great Tech Story includes a virtual exhibit to explore, immersive learning areas, and a problem-solving challenge. If you have been to CHM in person, you will recognize many of the stories and artifacts in their virtual form, like the 2000-year-old Antikythera mechanism—a Greek astronomical prediction machine of unrivalled sophistication—iconic minicomputers and supercomputers, handheld precursors of the smartphone, and a self-driving car.

Screenshot from CHM's *Minecraft* game

In the game, students meet historic figures, including Ada Lovelace and Alan Turing, as well as living computing pioneers, such as Margaret Hamilton—who wrote code to land men on the moon—and Lynn Conway, who broke societal barriers and developed new methods of integrated circuit design. Check out the full list of nonplayer characters based on real people. Learn more here: https://computerhistory.org/blog/making-the-great-tech-story/.

Screenshot from CHM's *Minecraft* game (Showing Sutherland head mounted display and Whitehouse.gov).

CHM IS ON ROBLOX

Continuing in the game vein, TechQuest, CHM's new game for kids' grades 3–8 on Roblox, includes a virtual museum exhibit along with activities that highlight how technology can make life healthier, easier, and safer for humans and animals alike. Developed in partnership with metaverse studio MELON, initial support was provided by Chris and Irma Fralic, the KLA Foundation, and the Severns Family Foundation. The aim of the experience is to visit a virtual exhibit from CHM, along with 20 activities that highlight how technology can make life healthier, easier, and safer for humans and animals alike. In the automation world, players can explore 3-D printing in school and create an accessible playground. In the conservation world, they can set up heat sensors to identify animals in the rainforest and pilot drones to help bees pollinate plants. Designed for students from grades 3–8, there is a lot to do and learn in this effort to reach out to new audiences about our digital world and the possible futures we may encounter.

CHM PLAYLISTS

CHM's playlists offer curated multimedia resources designed to inform and inspire. Here are three of our most popular ones as follows.

International Research Conference on the History of Computing

For five summer days in 1976, the first generation of computer pioneers came from around the world to reflect upon the first 25 years of computing at the Los Alamos National Laboratories. Lectures from this epic gathering are seen here for the first time ever. [Online]. Available: https://computerhistory.org/playlists/international-research-conference-on-the-history-of-computing/.

Technology + Art

From the earliest days of electronic computers, people used them to make art. These clips are from early computer-animated films created between 1963 and 1972.

Conference attendees, First International Research Conference on the History of Computing, Los Alamos, New Mexico, June 10–15, 1976. **Credit: Computer History Museum, No. 102695546**.

[Online]. Available: https://computerhistory.org/playlists/technology-art/.

ONE WORD: ADVICE FROM SILICON VALLEY

Company founders and builders offer a word of advice to people who may be thinking about starting a company or have just launched a startup. Their words represent challenges faced, obstacles overcome, or important lessons learned from their own experiences. Maybe they can help you! [Online]. Available: https://computerhistory.org/playlists/one-word-advice-to-new-entrepreneurs/.

BACKGROUND ACTIVITIES

As it has for over three decades now, the Museum spent good portions of 2022 responding to donation offers (500+ per year) and research enquiries, ranging from middle schoolers doing History Day projects to advanced postdoctoral research accessing CHM's linear mile of computer history documentation. CHM collected historical materials in accordance with a revised collecting strategy to prioritize technological gaps and underrepresented stories in the history of computing. With funding from the Kapor Foundation, work is also underway to collect oral histories and materials featuring the contributions and stories of black, indigenous, and people of color (BIPOC) by spring 2023.

(From left to right) Legendary Adobe evangelist Russell Brown, Photoshop Senior Engineering Manager Jackie Lincoln-Owyang, CHM's Kirsten Tashev, and Adobe Vice President, Digital Imaging, Maria Yap.

Celebrating Adobe

Finally, CHM's VP of Collections and Exhibitions Kirsten Tashev led the Museum's efforts to design and curate a new exhibit for Adobe Inc.'s new building. Adobe's new corporate office in downtown San Jose is slated to open this (2023) fall, in time for the company's 40th anniversary. It will house 4000 employees and be joined to the existing HQ building with a dramatic pedestrian bridge. Maria Yap, VP of Digital Imaging at Adobe, reached out to CHM to create a public museum gallery at street level in the new building. This was an opportunity we could not miss to extend our mission to decode technology and reach new audiences. The beautiful interactive space showcases Adobe's products, history, and culture and includes visually stunning multimedia and a fully immersive interactive art installation. It will open to the public in early 2023.

That is the 2022 CHM Update. As ever, please reach out to us whenever you have computer history questions. We are here to help!

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