

# COMMAND LINES

SOFTWARE, POWER & PERFORMANCE



march 18 - 19, 2017  
computer history museum  
mountain view, ca

# LETTER from the organizers

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Dear Command Lines Participants,

Command Lines marks the first time the Special Interest Group for Computing and Information in Society (SIGCIS) has held a meeting separate from the annual Society for the History of Technology conference (SHOT). It is also the first separate meeting of any SHOT SIG.

Command Lines was designed to engage new audiences and to include multiple disciplines. Our hope is to increase and enhance the membership of the SIGCIS, while continuing to move the organization into a more interdisciplinary future. While the SIGCIS will continue to have conferences in connection with SHOT's annual meeting, we hope that independent events like this will also become the norm, and we look forward to the help of SIGCIS membership in making this happen.

As SIGCIS membership grows, we have an opportunity and a civic responsibility to engage with historical questions in a way that engages wider publics and that speaks to present-day concerns. We hope that the Command Lines program reflects this, and that this event will be the start of a new and exciting chapter in SIGCIS history.

We are very glad you are here, and want to thank current members for their continued contributions while extending an enthusiastic welcome to our new members, featured speakers, and attendees. We hope that we will continue to have fruitful conversations across multiple fields after this conference is over.

In the meantime, thank you for coming to Command Lines, #SIGCIS2017. If you need anything or have questions, please feel free to ask or tweet to one of us (our names and handles are on page 3)!

Cordially,

The SIGCIS 2017 Organizing Committee

# INFO

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## [organizers]

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### co-organizers

david c. brock, @dcbrock  
marie hicks, @histoftech  
laine nooney, @sierra\_offline  
andrew l. russell, @russellprof

### conference assistant

kera allen

### program and website design

laine nooney

### and special thanks to CHM staff...

The organizers of Command Lines would like to thank the entire staff of the Computer History Museum for their invaluable assistance in making this meeting possible, most especially Poppy Haralson. Our particular thanks as well to Kirsten Tashev, John Hollar, George Holmes, Carina Sweet, Paula Jabloner, Jon Plutte, Marc Weber, Karen Kroschwitz, Dag Spicer, and Hansen Hsu.

## [inclusivity and anti-harassment policy]

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SIGCIS welcomes everyone, inclusive of gender identity and expression, sexual orientation, ability, age, appearance, race, nationality or religion. We are committed to fostering a positive, productive space for all participants, and are committed to listening more than speaking.

The event organizers will not tolerate harassment of conference participants in any form, in person or over social media. Conference participants violating these rules may be sanctioned or expelled from the conference without a refund at the discretion of the conference organizers.

For more resources on conference inclusivity policies, please visit the Ada Initiative's page at <http://bit.ly/confpolicy>.

## [all-gender restroom]

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The restroom closest to Boole and Lovelace has been set aside as an all gender restroom for the duration of Command Lines. Separate men's and women's restrooms can be found off the grand lobby by the Hahn Auditorium.

# INFO

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## [wifi]

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All guests are welcome to use the Museum's open wifi networks on the 1st and 2nd floors.

## [social media]

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We encourage participation on Twitter throughout the conference via our conference hashtag **#SIGCIS2017**. The SIGCIS Twitter handle is **@SIGCIS** and the Computer History Museum is **@ComputerHistory**. A list of all participant Twitter handles is available on page 23.

## [overflow streaming and video recording]

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Due to seating limitations in Boole, Command Lines' four single stream sessions (Sessions A, B, H and I) will be streamed to Lovelace so all attendees can watch the panels.

We do ask all presenters to sign a waiver permitting CHM to videotape their presentation, for posting on the CHM's Youtube channel. If you do not wish your presentation to be recorded, please let someone on the organizing committee know.

## [food and coffee]

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Command Lines offers light breakfast fare and lunch both Saturday and Sunday, and a reception Saturday night. **Attendees looking for food options within walking distance may reference our food map on page 20.** Local dinner options can be found on Castro Street, 2 miles away.

## [trip to CHM archives]

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Sunday morning, all attendees are welcome to rise early for a special tour of the Computer History Museum's off-site archives facility, the Shustek Center. Buses leave CHM promptly at 8:30AM and will return at 10:45AM, in time for the 11AM panels.

# WEEKEND at a glance

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## saturday

	Boole	Lovelace
Session A 9:15 - 10:15AM	Why Software? A Keynote Conversation*	*overflow streaming
Session B 10:30 - 11:45AM	Power, Affect and Identity in Networked Interactions*	*overflow streaming
11:45 - 12:30PM	<b>LUNCH</b>	<b>LUNCH</b>
Session C 12:30 - 2:15PM	The Fiction of Neutral Tools	Digital Labor and its Discontents
Session D 2:30 - 4:15PM	The Social Construction of Software	Technologies of Centralization and Conformity
Session E 4:30 - 5:45PM	Margaret Hamilton and the Core Memory Weavers	Oral History in Software History

## sunday

	Boole	Lovelace
Session F 11:00 - 12:45AM	Performing Identity and Embedding Bias	Visualization, Simulation and Presentation
12:45 - 1:30PM	<b>LUNCH</b>	<b>LUNCH</b>
Session G 1:30 - 3:15PM	"Better" Connections, "Best" Designs	Material Culture and Archival Practice
Session H 3:30 - 4:45PM	Maginalization, Opportunity and Prestige in Tech Work*	*overflow streaming
Session I 5:00 - 6:15PM	Internet History Panel*	*overflow streaming

# SCHEDULE saturday [march 18]

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## REGISTRATION // 8:30 - 9:00AM

[Coffee and snacks provided]

## WELCOME ADDRESS // 9:00 - 9:15AM // BOOLE

### **David C. Brock**

Director, Center for Software History // Computer History Museum

### **John C. Hollar**

President & Chief Executive Officer // Computer History Museum

### **Andrew L. Russell**

SIGCIS Chair // Dean of the College of Arts and Sciences // SUNY Polytechnic Institute

## SESSION A // 9:15 - 10:15AM // BOOLE

### **WHY SOFTWARE? a keynote conversation**

#### **Kavita Philip**

Associate Professor, Department of History // University of California, Irvine

#### **Tom Mullaney**

Associate Professor, Department of History // Stanford University

*Moderated by Patrick McCray*

*Professor, Department of History // University of California, Santa Barbara*

# SCHEDULE saturday [march 18]

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## SESSION B // 10:30 - 11:45AM // BOOLE

### **Power, Affect and Identity in Networked Interactions**

#### **Inauthentically Speaking: Speech Technology, Accent Bias and Digital Imperialism**

*Halcyon Lawrence*

Marion L. Brittain Postdoctoral Fellow, School of Literature, Media, and Communication // Georgia Institute of Technology

#### **Digital Apprehensions: Forensic Craft and the Policing of Child Exploitation Images**

*Mitali Thakor*

Postdoctoral Fellow in the Sexualities Project // Northwestern University

#### **Speaking Black, Speaking Back: Counternarrating the Erasure of African American 'Technigrationists'**

*Safiya Noble*

Assistant Professor, Department of Information Studies // University of California, Los Angeles

*Chaired by Marie Hicks*

*Assistant Professor of History, Lewis Department of the Humanities // Illinois Institute of Technology*

## **BUFFET LUNCH // 11:45 - 12:30PM**

# SCHEDULE saturday [march 18]

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## SESSION C // 12:30 - 2:15PM

### C1 // LOVELACE

## Digital Labor and Its Discontents

### **Seeing Like an Algorithm: Machine Learning and the New Division of Apperceptive Labor**

*Thomas Krendl Gilbert*

Ph.D. Student, Program in Machine Ethics and Epistemology // University of California, Berkeley

### **PEBDAC Error: Problem Exists Between Desk and Chair**

*Shari Wolk*

Ph.D. Candidate, Department of Media, Culture, and Communication // New York University

### **Algorithm Maintainers' Dilemmas Resolved: When Trending Algorithm, Hidden Labor, and External Audits Caused a Great Search Portal Not to Fail**

*Yoehan Oh*

Master's Student, History and Philosophy of Science // Seoul National University

### **'Digital Taylorism': Working with Process Management Systems in Comparison to Management Practices in Taylor's Scientific Management**

*Eva-Maria Raffetseder*

Ph.D. Candidate, Post/Doc Lab Digital Media // Technical University Munich

*Chaired by Nathan Ensmenger*

*Associate Professor, School of Informatics and Computing // Indiana University*



## **C2 // BOOLE**

### **The Fiction of Neutral Tools**

#### **git blame**

*Dylan Lederle-Ensign*

Ph.D. Student, Computer Science // University of California, Santa Cruz

#### **Performing Technological Utopianism with Constructionist Software, from LOGO to Scratch**

*Morgan G. Ames*

Postdoctoral Researcher, Center for Science, Technology, Medicine and Society // University of California, Berkeley

#### **Wireless Infrastructures and the Politics of Connectivity**

*Rory Solomon*

Ph.D. Student, Department of Media, Culture, and Communication // New York University

#### **Roomba in Revolt: Sociability and Securitization in the Internet of Things**

*Jeffrey Moro*

Ph.D. Student, Department of English // University of Maryland, College Park

*Chaired by Bill Aspray*

*Bill and Lewis Suit Professor of Information Technologies, School of Information // University of Texas at Austin*

## **COFFEE BREAK // 2:15 - 2:30PM**

# SCHEDULE saturday [march 18]

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## SESSION D // 2:30 - 4:15PM

### D1 // LOVELACE

## Technologies of Centralization and Conformity

### **Programs of Control: Bureaucratic Hierarchies, Software Implementation, and Agendas of Policy and Power in the U.S. Federal Government, 1963-1983**

*Andrew Meade McGee*

Visiting Assistant Professor of History, Department of History // Carnegie Mellon University

### **Hacking the System: Transgender Britons Confront the Ministry of Pensions, 1950-1970**

*Marie Hicks*

Assistant Professor of History, Lewis Department of the Humanities // Illinois Institute of Technology

### **Scraping Glitches: Social Media and Marginalization**

*Madisson Whitman*

Ph.D. Student, Department of Anthropology // Purdue University

### **Brokers, Queues, and Flows: Techniques of Financialization and Consolidation, 1985-2005**

*Michael Castelle*

Ph.D. Candidate, Department of Sociology // University of Chicago

*Chaired by David Alan Grier*

*Associate Professor, Elliott School of International Affairs // The George Washington University*

## **D2 // BOOLE**

### **The Social Construction of Software**

#### **Trouble in Cyborg Paradise: Johns Hopkins' First National Search for Applications of Personal Computing to Aid the Handicapped**

*Nabeel A. Siddiqui*

Ph.D. Candidate, American Studies Program // College of William and Mary

#### **Micro-serveurs and Micro-communities: Alternative Networks on the Margins of Minitel**

*Julien P. Mailland*

Assistant Professor, The Media School // Indiana University

*Kevin Driscoll*

Assistant Professor, Department of Media Studies // University of Virginia

#### **Excavating (Anti-)Piracy: Materiality of Intellectual Property Struggles in 1980s Commodore Software**

*James A. Hodges*

Ph.D. Student, School of Communication and Information // Rutgers University, New Brunswick

#### **Homebrew Game Development: On Illegitimacy in Software Production**

*Melaine Swalwell*

Associate Professor, Screen and Media Department // Flinders University

*Chaired by Jeffrey R. Yost*

*Associate Director, Charles Babbage Institute // University of Minnesota*

## **COFFEE BREAK // 4:15 - 4:30PM**

# SCHEDULE saturday [march 18]

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## SESSION E // 4:30 - 5:45PM

### E1 // LOVELACE

## **Margaret Hamilton & the Core Memory Weavers: The Women Who Put Man on the Moon**

The software code for the Apollo rockets was stored in woven memory, handmade by operators who NASA engineers nicknamed LOLs—short for “Little Old Ladies.” Workshop participants will weave core memory and collaboratively build an electronic quilt that tells the story of women’s contribution to computing innovation

*Daniela K. Rosner*

Assistant Professor, Department of Human Centered Design and Engineering // University of Washington

*Samantha Shorey*

Ph.D. Candidate, Department of Communication // University of Washington

*Rose Paquet Kinsley*

Ph.D. Candidate, Information School // University of Washington

## **E2 // BOOLE**

### **Tools, Techniques and Communities: Oral History in Software History**

*Laine Nooney*

Assistant Professor, School of Literature, Media and Communication // Georgia Tech

*Brian McCullough*

Writer and Entrepreneur // Internet History Podcast // 2016 TED Resident

*Melaine Swalwell*

Associate Professor, Screen and Media Department // Flinders University

*David C. Brock*

Director, Center for Software History // Computer History Museum

*Moderated by Deanna Day*

*Research Fellow // Chemical Heritage Foundation*

## **RECEPTION // 6:00 - 8:00PM**

[Revolution and Make Software Exhibitions Open]

## **CYBERSPACE HISTORY DINNER (AND TIMELINE DISCUSSION) // 7:30PM**

[For Pre-registered Guests Only]

# SCHEDULE sunday [march 19]

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## TRIP TO CHM ARCHIVES // 8:30 - 10:45AM

[Sunday morning, all attendees are welcome to rise early for a special tour of the Computer History Museum's off-site archives facility, the Shustek Center. Buses leave CHM promptly at 8:30AM and will return at 10:45AM, in time for the 11AM panels.]

## SESSION F // 11:00AM - 12:45PM

### F1 // LOVELACE

#### Visualization, Simulation, and Presentation

##### **Graphics, Semiotics, and Governance: Jacques Bertin and Early Data Visualization**

*Alexander M. Campolo*

Ph.D. Candidate, Department of Media, Culture, and Communication //  
New York University

##### **Touching You, Touching Me: Getting the Physics Right in EA FIFA**

*Carlin Wing*

Assistant Professor, Media Studies // Scripps College

##### **Command Performance: Slideware, Power, and Presentation Culture**

*Erica Robles-Anderson*

Associate Professor, Department of Media, Culture, and Communication  
// New York University

##### **Visualizing data and augmenting cognition from John Tukey to ggplot2**

*Matthew L. Jones*

James R. Barker Professor of Contemporary Civilization //  
Columbia University

*Chaired by Kera Allen*

*Ph.D. Student, School of History and Sociology // Georgia Tech*

## F2 // BOOLE

### **Performing Identity and Embedding Bias**

#### **Performing Gender on PLATO**

*Joy Marie Lisi Rankin*

Assistant Professor, History, Philosophy, and Sociology of Science, Lyman Briggs College, and Social Relations and Policy at James Madison College  
// Michigan State University

#### **Programa su Futuro: Printed Media and Translation in Spanish and Latin American Computing Histories during the 1980s**

*Fabian Mauricio Prieto-Nanez*

Ph.D. Candidate, Media and Communication // University of Illinois at Urbana- Champaign

*Ignasi Meda-Calvet*

Ph.D. Student, Centre for the History of Science (CEHIC) // Autonomous University of Barcelona

#### **My Hello Barbie: Friendship is Scripted**

*Sarah A. Bell*

Assistant Professor of Digital Media, Department of Humanities // Michigan Technological University

#### **قلب: لغة برمجة and the Cultural Baggage of Computer Science**

*Ramsey Nasser*

Independent Computer Scientist

*Chaired by Sarah T. Roberts*

*Assistant Professor, Department of Information Studies // University of California, Los Angeles*

## **BUFFET LUNCH // 12:45 - 1:30PM**

# SCHEDULE sunday [march 19]

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## SESSION G // 1:30PM - 3:15PM

### G1 // LOVELACE

#### **“Better” Connections, “Best” Designs**

##### **Social Relations and Routing Architectures: Historicizing the End-to-End Principle**

*Bradley R. Fidler*

Researcher Track (Asst. III), Computer Science Department // University of California, Los Angeles

##### **Light Industry, Soft Power**

*Ingrid Burrington*

Freelance Writer and Coder // Data and Society

##### **Constructing Performance: Territories of Optimization in Willis and Associates' CARLA Platform**

*Meredith Sattler*

Ph.D. Student, Washington Alexandria Architecture Center // Virginia Tech

##### **Raceways and Keyboard Trays: The Messy Integration of Personal Computers in American Office Design**

*Jennifer Kaufmann-Buhler*

Assistant Professor of Design History, Department of Art and Design // Purdue University

*Chaired by Andrew L. Russell*

*Dean of the College of Arts and Sciences // SUNY Polytechnic Institute*



## **G2 // BOOLE**

### **Material Culture and Archival Practice**

#### **Echos of Power: Collecting and Exhibiting Software at the Smithsonian Institution**

*Petrina Foti*

Research Fellow, Center for Public History // Nazareth College of Rochester

#### **Software Comes to Matter: An Episode in the Material History of Computational Design**

*Daniel Cardoso Llach*

Assistant Professor, Computational Design School of Architecture // Carnegie Mellon University

#### **Data Culture: Historical Methods for the Digital Age**

*Hallam Stevens*

Associate Professor, History Programme and School of Biological Sciences // Nanyang Technological University

#### **The IBM 1401's Place in History of Computing**

*Guy C. Fedorkow*

System Architect // Juniper Networks

*Chaired by David C. Brock*

*Director, Center for Software History // Computer History Museum*

## **COFFEE BREAK // 3:15 - 3:30PM**

# SCHEDULE sunday [march 19]

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## SESSION H // 3:30PM - 4:45PM // BOOLE

### Marginalization, Opportunity, and Prestige in Tech Work

#### **Latinas On Line: Intersectional Identities at AT&T**

*Melissa Villa-Nicholas*

Lecturer, Graduate School of Library & Information Sciences // University of Rhode Island

#### **Away from the Doorsteps of the ICT Center: Youth, Technology, and Development in Global India**

*Sreela Sarkar*

Assistant Professor, Department of Communication // Santa Clara University

#### **Sekiko Yoshida: Abacus 'Software' in the Early U.S. Space Program**

*Eileen Clancy*

MA Student, Liberal Studies and Digital Humanities // CUNY Graduate Center // Project Coordinator of Beyond Citation

*Chaired by Laine Nooney*

*Assistant Professor, School of Literature, Media and Communication // Georgia Tech*

## COFFEE BREAK // 4:45 - 5:00PM

## **SESSION I // 5:00PM - 6:15PM // BOOLE**

### **Networking History Roundtable: The Net is Eating Software**

*Kilnam Chon*

Professor // KAIST and Keio University // Member of the Internet Hall of Fame // Chief Editor of [internethistory.asia](http://internethistory.asia)

*Chen Yu*

President & Cofounder, [Yeepay.com](http://Yeepay.com) // Interviewer for 10-part China Central Television documentary "The Internet Age" // Bestselling Author in China

*Camille Paloque-Berges*

Research Engineer // HT2S Lab // Conservatoire national des arts et métiers / National Conservatory of Arts and Crafts [Cnam] Paris, France

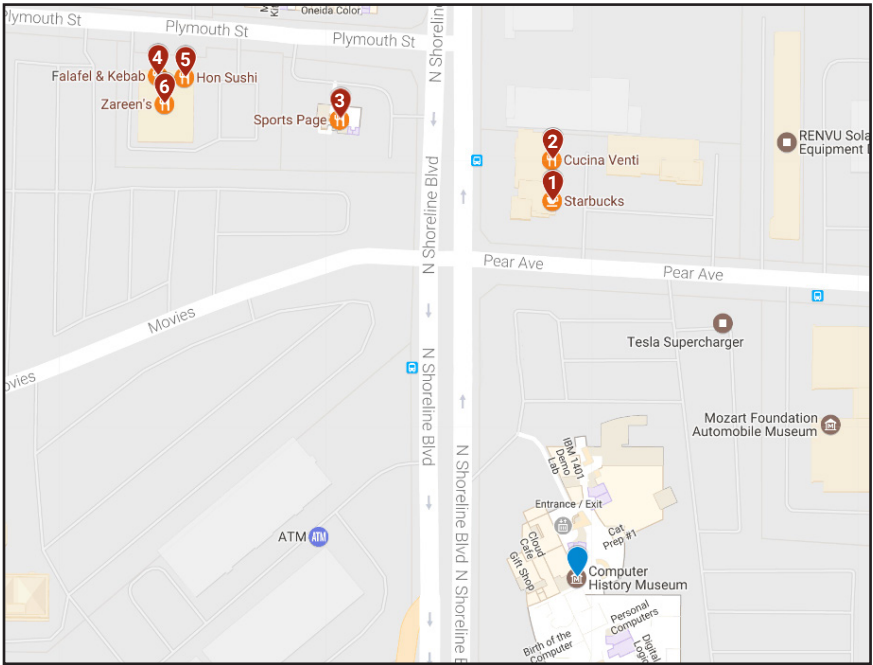
*Moderated by Marc Weber*

*Curatorial Director // Computer History Museum's Internet History Program*

## **IEEE MILESTONE PLAQUE UNVEILING AND MUSEUM EXHIBITIONS OPEN // 6:15 - 8:00PM**

[A special event follows the conclusion of Command Lines, honoring Douglas Engelbart and the "Mother of All Demos." Computing legend Alan Kay and others from IEEE, CHM, and SRI will herald this achievement and talk about the importance of the pioneering software and practices presented at the Demo. The IEEE Milestone plaque unveiling will be in the downstairs area of the Museum, 6:45 - 7:45PM]

# FOOD



1. Starbucks  
1380 Pear Ave  
Price: \$  
Coffee, snacks, light fare

2. Cucina Venti  
1390 Pear Ave  
Price: \$\$  
Pizza and pasta

3. Sports Page  
1431 Plymouth St  
Price: \$  
Burgers, beer, bar food

4. Falafel and Kebab  
1477 Plymouth St  
Price: \$  
Mediterranean

5. Hon Sushi  
1477 Plymouth St  
Price: \$  
Japanese

6. Zareen's  
1477 Plymouth  
Price: \$  
Pakistani and Indian





# TWITTER roll call

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Kera Allen @kejojo

Morgan G. Ames @morgangames

David C. Brock @dcbrock

Ingrid Burrington @lifewinning

Alex Campolo @AlexCampolo

Michael Castelle @mccastelle

Kilnam Chon @chonkn

Eileen Clancy @clancynewyork

Deanna Day @deannaday

Kevin Driscoll @kevindriscoll

Nathan Ensmenger @NEnsmenger

Guy C. Fedorkow @GFedorkow

Bradley R. Fidler @brfidler

Petrina Foti @PetrinaFoti

Marie Hicks @histoftech

James Hodges @jameshodges\_

Matthew L. Jones @nescioquid

Halcyon M. Lawrence @Halcyon\_L

Dylan Lederle-Ensign @dlederle

Daniel Cardoso Llach @dcardo

Julien Mailland @minitelresearch

Brian McCollough @brianmcc

Jeffrey Moro @jeffreymoro

Tom Mullaney @tsmullaney

Ramsey Nasser @ra

Safiya Umoja Noble @safiyanoble

Laine Nooney @Sierra\_OffLine

Yoehan Oh @yoehanee

Joy Marie Lisi Rankin @JoyMLRankin

Sarah T. Roberts @ubiquity75

Andrew Russell @russellprof

Samantha Shorey @SamShorey

Nabeel A. Siddiqui @nabsiddiqui

Rory Solomon @rorys

Hallam Stevens @hallam\_stevens

Melanie Swalwell @melswal

Mitali Thakor @mitalithakor

Madisson Whitman @madanthro



Command Lines brings together scholars, technologists and other independent practitioners invested in the critical analysis of software. Command Lines is the first SIGCIS conference hosted outside the annual meeting of the Society for the History of Technology, and is generously supported by the Computer History Museum's Center for Software History.

[meetings.sigcis.org](http://meetings.sigcis.org)  
[www.sigcis.org](http://www.sigcis.org)  
[www.computerhistory.org](http://www.computerhistory.org)

@SIGCIS  
@ComputerHistory  
#SIGCIS2017