

# EXCEPTION ERROR



**fatal, illegal, unknown**

October 27, 2019  
11th Annual SIGCIS Conference

Palazzo delle Stelline  
Milan, Italy

# INFO

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## [organizers]

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### co-organizers

laine nooney, vice-chair of meetings

gerardo con d'az

stephanie dick

andrew l. russell, chair of sigcis

### conference assistant

kera allen

### program and website design

laine nooney

### and special thanks...

...to SHOT staff Jan Korsten and Sonja Beekers, and SHOT President Tom Misa, for making our annual SIGCIS meeting possible.

## [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 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 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>.

## [social media]

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We encourage participation on Twitter throughout the conference via our conference hashtag **#SIGCIS19**. The SIGCIS Twitter handle is **@SIGCIS**. A list of participant Twitter handles is available on page 19.

## [room locations]

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SIGCIS events are on the ground and first floors of the Palazzo della Stelline. Bramante, which hosts our Welcome and Keynote, is in the northeast corner on the ground floor, near the lobby. Verdi and Toscanini are upstairs on the first floor, at opposite ends of the west hall. Breakfast, lunch, and breaks will be in the Cloister Corridor on the first floor.

# SUNDAY panels at a glance

|                                | Bramante<br>[Ground Floor]  | Toscanini<br>[First Floor]   | Verdi<br>[First Floor]                                |
|--------------------------------|---|--|---|
| 8:00AM - 9:00AM                | Registration, Breakfast, Welcome, Awards  |  |   |
| 9:00AM - 10:15AM               | Keynote: Gerardo Con Díaz<br>[Bramante, Ground Floor]   |  |   |
| Session A<br>10:30AM - 12:15PM | Collectives,<br>Publics,<br>Politics  | Making Digital<br>Banks Work:<br>A European<br>Perspective   | Creative Logics                                       |
| 12:30PM - 2:00PM               | Lunch Break   |  |   |
| Session B<br>2:00PM - 3:45PM   | Carceral<br>Computing   | Breaking the<br>Limits of<br>America-centered<br>Historiography:<br><i>Gaming the Iron<br/>Curtain and From<br/>Russia with Code</i> | The Crumbling,<br>Changing, and<br>Peripheral Archive |
| 3:45PM - 4:00PM                | Break   |  |   |
| Session C<br>4:00PM - 5:45PM   | The Digital as<br>Material:<br>Encounters with<br>Space, Physicality,<br>and Objects in<br>Computer History | "If I Don't Write<br>This Down,<br>It Will be Lost":<br>Resurfacing and<br>Popularizing the<br>History of the<br>Olivetti ELEA 9003  | Exclusion by<br>Design                                |

## **A Note About Works-in-Progress**

The Works-in-Progress session is held during Session B, from 2:00PM - 3:45PM. Works-in-Progress is a facilitated, private peer feedback session for participants only. A list of Works-in-Progress participants can be found on page 10.

# SCHEDULE

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**REGISTRATION + BREAKFAST // 8:00 - 8:45AM**

**WELCOME + AWARDS // 8:45 - 9:00AM //**

## **Bramante**

### **Jason Gallo**

SIGCIS Vice-Chair of Operations // Researcher // Science and Technology Policy Institute

### **Laine Nooney**

SIGCIS Vice-Chair of Meetings // Assistant Professor // New York University

## **2019 SIGCIS AWARDS + PRIZES**

### **MIT Press Travel Award**

Corinna Kirsch (C1)

### **Michael S. Mahoney Travel Award**

Sarah Nelson (WiP)

### **Computer History Museum Travel Award**

David Dunning (A3), Cierra Robson (B1), Sarah T. Hamid (B1)

### **Mahoney Prize for Outstanding Article**

Nikhil Menon, "Fancy Calculating Machine': Computers and Planning in Independent India." *Modern Asian Studies* 52, no. 2 (2018): 421-457

### **Computer History Museum Prize for Outstanding Book**

Jaroslav Švelch, *Gaming the Iron Curtain: How Teenagers and Amateurs in Communist Czechoslovakia Claimed the Medium of Computer Games* (MIT Press, 2018)

**KEYNOTE // 9:00 - 10:15AM // Bramante**

## **What is Software? Patent Law and the Many Natures of Software**

**Gerardo Con Díaz**

Assistant Professor // Department of Science and Technology Studies //  
University of California, Davis

*Introduced by Laine Nooney*

*SIGCIS Vice-Chair of Meetings // Assistant Professor // New York University*

**Special Note: EDITH/WITH Lightning Sessions // 10:00AM - 12:00PM**

*Fellow SHOT Special Interest Groups EDITH [Exploring Diversity in Technology's History] and WITH [Women in Technological History] will be hosting Lightning Sessions in the Solari room on the ground floor. SIGCIS participants are welcome to join EDITH and WITH for informal, fast discussions of in-the-works research that integrates the study of race, ethnicity, gender, sexuality, class, and disability—and the intersectionality of such categories—into the scholarship of the history of technology.*

# SCHEDULE

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## SESSION A // 10:30AM - 12:15PM

### A1 // Panel // **Bramante** **Collectives, Publics, Politics**

These speakers explore how computing and communications technologies have served as sites for political imagination, political action, and the creation of particular publics. **Ginevra Sanvitale** unearths radical political visions of computing that developed among Italian Marxists and social anarchists during the Cold War. **Rory Solomon** unearths ambitions of collective sociality in Paul Baran's vision for networked communication. **Sam Kellogg's** paper treats software as a site of legal and political action, exploring how the U.S. embargo of Cuba was translated into code. And **Sarah Myers West** reveals how cryptographic technology, and the visions of communication and information control embodied within it, were developed in tandem as the crypto community dealt with racialized and gendered discrimination within their own community.

#### **Unavoidable Computer Futures and How to Avoid Them: Fear and Politics in Italian Cold War Computer Imaginaries**

Ginevra Sanvitale // Doctoral Candidate // Eindhoven University of Technology

#### **Routing Around the Exception: Mesh Networks as *Infrastructure Sacer***

Rory Solomon // Doctoral Candidate // New York University

#### **Sanctions and Software: The U.S. Embargo of Cuba and Code**

Sam Kellogg // Doctoral Student // New York University

#### **The Paper Labyrinth: Cryptographic Imaginaries and Enclave Futures**

Sarah Myers West // Postdoctoral Researcher // AI Now Institute, New York University

*Chaired by Gili Vidan*

*Doctoral Candidate // Harvard University*

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## **A2 // Panel // Toscanini**

### **Making Digital Banks Work: A European Perspective**

This panel explores the challenges banking institutions in different competitive environments faced during the process of adopting computer technology and in particular, how they dealt with instances where technology violently and unexpectedly failed to comply. **J. Carles Maixé-Altés** explores the origins of an IT failure at Britain's TSB, that damaged the credit scores of thousands of customers and cost its parent company 200 million euros. **Martin Schmitt** will present on the establishment of computer centers in the financial sector of East and West Germany, as a means of uncovering how local and national infrastructures interact. And **Florian Vetter** aims to analyse how European banks imagined both perfect users of their digital financial tools as well as specific categories of goods for exchange mediated by their new infrastructure. The overall aim is thus to map the response of bank staff, bank customers and the institutional settings in which they interacted to unexpected failures in computer technology

#### **Reliability, Security, Errors, and Other Evils at the Dawn of Electronic Bank Transfers in the 1970s-1980s**

J. Carles Maixé-Altés // Professor // University of A Coruña, Spain

#### **Centralized Computing and Errors in the Financial Sector of East-and-West Germany, 1957-1975**

Martin Schmitt // Research Fellow // Technical University Darmstadt

#### **Studying Users of Digital Banking Services in Europe**

Florian Vetter // Doctoral Student // University of Luxembourg

*Chaired by Valérie Schafer*

*Professor // University of Luxembourg*

# SCHEDULE

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## **A3 // Panel // Verdi Creative Logics**

Logic and creativity are often seen as opposed, the former rule-bound and disciplined, the latter spontaneous and surprising. These papers, however, explore intersections and tensions between them in the history of computing. **David Dunning's** paper dives into the history of logic itself to explore how failures, uncomputable processes, and unsolvable problems have been central to the study of computation. **Jessica Feldman and Martin Scherzinger** explore the establishment of a standardized digital representation for music, and debates about whether it could capture embodied practice. **Charles Eppley** also explores the application of computing to music through the history of a composition program.

### **Canonizing Failure: Turing Machines and the Narrative Coupling of Logic and Computing**

David Dunning // Doctoral Candidate // Princeton University

### **The Romantic Agon of the MIDI Protocol**

Jessica Feldman // Assistant Professor // American University of Paris  
Martin Scherzinger // Associate Professor // New York University

### **Listening to Computer History: Max Mathews, Laurie Spiegel, and Electronic Sound Synthesis at Bell Labs, 1957-1986**

Charles Eppley // Visiting Assistant Professor // Oberlin College

*Chaired by Jacob Gaboury*

*Assistant Professor // University of California, Berkeley*

## **LUNCH BREAK // 12:30 - 2:00PM**

Lunch will be provided for SIGCIS participants in the Cloister Corridor on the First Floor.

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## **SESSION B // 2:00 - 3:45PM**

### **B1 // Panel // Bramante Carceral Computing**

Metaphors of policing and control abound in computing history, but these linguistic tropes should not obscure the urgent fact that the carcerality of computing is not simply metaphor. This panel explores the all too literal historical connection between computing and incarceration in the U.S.

**Marc Aidinoff** resurfaces how Mississippi inmate labor was used to install the very computer systems that would further manage and incarcerate the poor. **Cierra Robson** focuses on state surveillance practices in Oakland, CA, to explore how the fatal links they forge between the hyperlocal lives of residents and transnational political economy. **Kaneesha Johnson** maps what information has been collected on carceral citizens and recovers the experiences of people in the system. **Sarah T. Hamid** looks to the Chicago Police Department as an information management system in order to reveal that the allocation of police service and enrollment into what she calls “police publics” and “policed publics” is technologically mediated and racially segregated.

#### **From Parent to CLNT: The “Faulty Family” and the Technical System of Child Support Enforcement**

Marc Aidinoff // Doctoral Candidate // MIT

#### **Broken Mirrors: Surveillance in Oakland as both Reflection and Refraction of California’s Carceral State**

Cierra Robson // Doctoral Student // Harvard University

#### **All Eyes on Me: Carceral Citizen’s Feelings Toward Punishment, Surveillance, and Data Extraction**

Kaneesha Johnson // Doctoral Candidate // Harvard University

#### **ShotSpotter, Automated Enrollment of Policed Publics, and the Long History of Police Intelligence Schemes in Chicago’s Black Communities**

Sarah T. Hamid // Community Organizer // Prison Tech Research Group

*Chaired by Stephanie Dick*

*Assistant Professor // University of Pennsylvania*

# SCHEDULE

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## **B2 // Roundtable // Toscanini**

### **Breaking the Limits of American-Centered Historiography: *Gaming the Iron Curtain* and *From Russia with Code***

This roundtable moves beyond the confines of the history of technology through interdisciplinary conversation centered on the question ‘What are the limits of our historiographic situation?’ Bringing together perspectives from media studies, sociology, and social sciences, discussants will reflect on computing in socialist contexts, especially in the Eastern Bloc. The roundtable will engage with two recent publications on these subjects: Jaroslav Švelch, *Gaming the Iron Curtain: How Teenagers and Amateurs in Communist Czechoslovakia Claimed the Medium of Computer Games* (MIT Press, 2018) and Mario Biagioli and Vincent Lépinay, editors of *From Russia with Code: Programming Migrations in Post-Soviet Time* (Duke University Press, 2019).

Ksenia Tatarchenko // Assistant Professor // Singapore Management University

Vincent Antonon Lépinay // Associate Professor // Paris Institute of Political Studies

Zinaida Vasilyeva // Postdoctoral Researcher // Technical University of Munich

Jaroslav Švelch // Assistant Professor // Charles University

*Moderated by Gleb J. Albert*  
Postdoctoral Researcher // University of Zürich

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## **B3 // Panel // Verdi**

# **The Crumbling, Changing, and Peripheral Archive**

These papers explore the historical constitution of the archives from which the history of computing is written, challenging them to speak in new ways. **Simon Rowberry** demonstrates that the changing format of patent databases informs the way that progress narratives are developed. **Petrina Foti** explores the inevitable obsolescence of all computing technologies from the perspective of the museum sector's struggle for preservation. And **Justin Zobel** discusses the oldest extant stored-program computer, CSIRAC, not found in the traditional "centers" of computing history -- the US and Britain -- but rather in Australia, whose computing history has largely to be written.

### **Fragmentation and Discontinuity in Access to the USPTO Full Text and Image Database**

Simon Rowberry // Lecturer // University of Stirling

### **Resistance Is Futile: The Museum Sector's Struggle Against Digital Obsolescence**

Petrina Foti // Adjunct Faculty // Rochester Institute of Technology

### **CSIRAC in Australia: Computing at the Periphery**

Justin Zobel // Professor and Pro Vice-Chancellor // University of Melbourne

*Chaired by Jason Gallo*

*Researcher // Science and Technology Policy Institute*

# SCHEDULE

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## **B4 // Works-in-Progress**

Works-in-Progress is a closed session for SIGCIS participants to receive feedback on pre-circulated written work from conference organizers and SIGCIS volunteers.

### *Participants*

#### **International Satellite Governance, 1959-1965**

Sarah Nelson // Doctoral Student // Vanderbilt University

#### **Programmers, Clerks, and Children. Exploring Computer Users and the Emergence of 'Software Psychology' in the 1970s**

Markus Schmid // Doctoral Student // Swiss Federal Institute of Technology

#### **Information: Signal Economies, Communicative Materialism, and the Order of Discourse**

Bernard Geoghegan // Senior Lecturer // King's College London

#### **How to Deal with Failure: Performativity, Uncertainty and Goodhart's Law through Crises in Monetary Policy and Macroeconomics 1979-1995**

Susannah Glickman // Doctoral Student // Columbia University

*Works-in-Progress is facilitated by Gerardo Con Díaz  
Assistant Professor // University of California, Davis*

## **BREAK // 3:45 - 4:00PM**

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## **SESSION C // 4:00 - 5:45PM**

### **C1 // Panel // Bramante**

## **The Digital as Material: Encounters with Space, Physicality, and Objects in Computer History**

This panel explores differing approaches to “materiality” in computing history. **Sytze Van Herck** considers the spatial and organizational realities that confronted offices that utilized IBM System 360 installations in the 1960s. **Corinna Kirsch** contemplates both the environmental reality of computing devices as chemically-manufactured physical objects and the challenge to museums that seek to archive their industrial legacies. **Kimon Keramidas** similarly grounds his research from an exhibit perspective, elaborating on the design of a public display of hands-on computing interfaces. Finally, **Kyle Riisman** explores 1980s digital bulletin board communities centered on collecting and trading material objects.

### **Rebuilding the Office around the Mainframe: IBM's S/360 in Context**

Sytze Van Herck // Doctoral Student // University of Luxembourg

### **Dirt, Silicon, Waste: The Earth as an Archive of Computing**

Corinna Kirsch // Lecturer // Stony Brook University

### **Informal Networks of Awesomeness: Researching the Material Culture of Personal Computing**

Kimon Keramidas // Associate Professor // New York University

### **Living in the Material World: Bridging the Analog/Digital Divide in Bulletin Board System Communities in the 1980s**

Kyle Riisman // Senior University Lecturer // New Jersey Institute of Technology

### *Chaired by*

*Alana Staiti // Curator of the History of Computers and Information Sciences // National Museum of American History, Smithsonian Institution*

*Andrew Meade McGee // Visiting Assistant Professor, CLIR Fellow // Carnegie Mellon University*

# SCHEDULE

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## **C2 // Roundtable // Toscanini**

### **“If I Don’t Write This Down, It Will Be Lost”: Resurfacing and Popularizing the History of the Olivetti ELEA 9003**

This roundtable will center on the Olivetti Company's early work on digital computers in the late 1950s and early 1960s. This history is not well known, even among historians of computing and even within Italy, the country in which all of the events took place. Indeed, when people first hear about how Olivetti introduced the ELEA 9003, a groundbreaking transistorized mainframe computer in 1959, the typical reaction is “Really? I thought Olivetti made typewriters.” The roundtable participants came to the Olivetti story from different paths, and they have all worked in various ways to resurface it and make it compelling and relevant to a general audience.

**Franco Filippazzi // Computer Scientist // Associazione Italiana per l’Informatica e il Calcolo [Italian Association for Information Technology and Automatic Calculation]**

**Elisabetta Mori // Doctoral Candidate // Middlesex University**

**Ciaj Rocchi and Matteo Demonte // Illustrators, Graphic Novelists, Videographers // *La Lettura***

**Simona Casonato // Historian and Visual Documentation Specialist // Museo Nazionale Scienza e Tecnologia Leonardo da Vinci**

**Renato Betti // Professor and former Olivetti employee // Polytechnic University of Milan**

**Wladimir Zaniewski // Computer Engineer // ISIS Enrico Fermi**

*Moderated by Jean Kumagai  
Senior Editor // IEEE Spectrum*

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## **C3 // Panel // Verdi**

### **Exclusion by Design**

The papers in this panel explore historical attempts to solve social and intellectual problems with computing, and the norms and logics exhibited therein. **Yue Zhao** explores selfie software that is designed to “fix” the flaws in faces, in order to explore racialized norms of beauty and technical standards at work in them. Also considering how “innovative technologies” reproduce existing social orders, **Morgan G. Ames** explores the One Laptop Per Child program aimed at providing new tools and skills to underserved children in the Global South, but which in fact recreated socioeconomic inequality by introducing inevitable breakages and breakdowns. **Elizabeth Petrick** will also focus on the development of pedagogical computing, in this case as developed by Adele Goldberg as she navigated the highly gendered world of Xerox PARC. And **Theodora Vardouli** explores the development of an early computer design program tasked with identifying bad architectural choices, and the visions of life and the environment it encoded.

#### **Beyond Fixing: Algorithmic Identity-making and Facial Detectability Problems of Selfie Software**

Yue Zhao // Independent Scholar

#### **The Trojan Horse Machine: One Laptop per Child and Cultures of Disruption**

Morgan G. Ames // Assistant Adjunct Professor // University of California, Berkeley

#### **Adele Goldberg, Smalltalk, and Children’s Education with Computers**

Elizabeth Petrick // Associate Professor // Rice University

#### **Failures Interlock: Computing Misfits, Architecture’s Failures, and Fitness of Form ca. 1960**

Theodora Vardouli // Assistant Professor // McGill University

*Chaired by Ramesh Subramanian  
Professor // Quinnipiac University*

# SIGCIS donors

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The SIGCIS Conference runs on a modest annual budget supplied by individual and institutional donors. This includes a mix of on-site donations and book raffle fundraising, recurring earmarked donations, as well as endowed funds that support our travel awards and book and essay prizes. We are delighted to honor those who have made contributions to specified endowments or provide large scale travel support.

Funds raised through on-site donations or over the website currently contribute to the conference's general operating expenses as well as additional travel awards. Funds from the book raffle contribute to the MIT Press Travel Award.

## **Interested in Donating?**

SIGCIS will be overhauling their fundraising program beginning in 2020. If you would like to support our community with a large or reoccurring donation, please reach out to SIGCIS Treasurer Gerardo Con Díaz for more information.

## **The Mahoney Fund**

SIGCIS established the Mahoney Fund in 2008, in honor of historian of computing Michael S. Mahoney. The fund is the main capital reserve for the SIG, and is intended to provide a long-term income source and support for special projects. Income from the fund provides ongoing support for the annual Mahoney Prize for outstanding essay in the field and the Michael S. Mahoney Travel Awards. For more information on The Mahoney Fund, visit <http://www.sigcis.org/mahoneyfund>.

## **Mainframe Class *individual donations of \$500 or more***

John Coopersmith (2013, 2016)  
Angela Creager (2014, 2015)  
Theodore Dolotta (2009)  
Thomas L. Drucker (2011, 2015, 2017)  
Thomas Haigh (2010)  
Ann Johnson (2009, 2011-13)  
Joseph November (2013)

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Leonard Shustek (2009, 2013)  
Richard Snodgrass (2017)  
University of Wisconsin, Milwaukee (2010, 2012-2015)

**Minicomputer Class** *individual donations of \$200 - \$499*

Jonathan Coopersmith (2009, 2010, 2011, 2017)  
Angela Creager (2010)  
Theodore Dolotta (2012)  
Daniel J. Feldman (2011, 2013-2015, 2017)  
Thomas J. Misa (2011)  
Richard T. Snodgrass (2009, 2013-2014)  
Wendy Vogenitz Tinsley (2009-2017)

**Microcomputer Class** *individual donations of \$100 - \$199*

Paul Ceruzzi (2013)  
Thomas Haigh (2008-2016)  
Chigusa Kita (2009)  
Thomas J. Misa (2014-2105)  
Andrew Russell (2013-2015)

**Handheld Class** *individual donations of \$50-\$99*

Burton Grad (2008, 2013)  
Brent Jesiek (2010)  
Erik P. Rau (2009)  
Dag Spicer (2010-2013, 2015)

# **SIGCIS donors**

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## **The Computer History Museum Prize Fund**

In 2012 the Computer History Museum Prize was endowed in perpetuity through a generous bequest from the estate of Paul Baran, a legendary computer innovator and entrepreneur best known for his work to develop and promote the packet switching approach on which modern networks are built. Baran was a longtime supporter of work on the history of information technology and named the prize to celebrate the contributions of the Computer History Museum to that field. The fund currently supports the CHM Prize for outstanding book in the field.

## **The Computer History Museum Travel Award**

The Computer History Museum Travel Award was launched in 2010 with support from Richard S. Tedlow, the Class of 1949 Professor of Business Administration Emeritus at the Harvard Business School. Prof. Tedlow funded the CHM Travel Award from 2010-2013. Since 2014, the Award has been funded annually through a donation from the Computer History Museum Chair, Len Shustek. Shustek, who is co-founder and chairman of the board of trustees of the Computer History Museum, has long been a champion of the history of computing, particularly at the intersections of museums, industry professionals, and the scholarly community.

# TWITTER roll call

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|                         |                         |
|-------------------------|-------------------------|
| Marc Aidinoff           | <b>@maidinoff</b>       |
| Gleb J. Albert          | <b>@glebalbert</b>      |
| Morgan G. Ames          | <b>@MorganGAmes</b>     |
| Bernardo Bátiz-Lazo     | <b>@batizlazo</b>       |
| Stephanie Dick          | <b>@mysdick</b>         |
| Charles Eppley          | <b>@CharlesEppley</b>   |
| Bernard Geoghegan       | <b>@bernardionysius</b> |
| Sarah T. Hamid          | <b>@hamidasnuva</b>     |
| Kaneesha R. Johnson     | <b>@k_r_johnson</b>     |
| Sam P. Kellogg          | <b>@sampkellogg</b>     |
| Kimon Keramidas         | <b>@kimonizer</b>       |
| Corinna Kirsch          | <b>@corinnakirsch</b>   |
| Jean Kumagai            | <b>@jeankumagai</b>     |
| Joan Carles Maixé-Altes | <b>@CarlesMaixe</b>     |
| Elisabetta Mori         | <b>@bettygorf</b>       |
| Sarah Nelson            | <b>@sarahsays_etc</b>   |
| Laine Nooney            | <b>@sierra_offline</b>  |
| Elizabeth Petrick       | <b>@liz_petrick</b>     |
| Kyle Riismandel         | <b>@ProfRiismandel</b>  |
| Valérie Schafer         | <b>@valerie_schafer</b> |
| Rory Solomon            | <b>@rorys</b>           |
| Jaroslav Švelch         | <b>@raguklemenso</b>    |
| Sytze Van Herck         | <b>@sytzevh</b>         |
| Theodora Vardouli       | <b>@tvardouli</b>       |
| Sarah Myers West        | <b>@sarahbmyers</b>     |

# SIGCIS

The Special Interest Group for  
Computing, Information, and Society

SIGCIS is the leading international group for historians with an interest in the history of information technology and its applications. Our primary activities include meetings held in connection with our parent society, the Society for the History of Technology, and a range of online resources hosted from our website.

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

@SIGCIS  
#SIGCIS19