



2017 Symposium on Cryptologic History *Milestones, Memories, and Momentum*

PRELIMINARY PROGRAM (SUBJECT TO CHANGE)

THURSDAY 19 OCTOBER 2017
Events at the Kossiakoff Center, Laurel, Maryland

SESSION 1 **0830 - 0915**
PLENARY AUDITORIUM Welcome and Keynote. Deputy Director, NSA (invited)

SESSION 2 **0945 - 1115**
SESSION 2A AUDITORIUM

Inside Cyber Conflict: A View from the Archives Moderator: Michael Warner
Craig Wiener Penetrate, Exploit, Disrupt, Destroy: The Rise of Computer Network Operations as a Major Military Innovation
Richard Andres Information Operations in Operation Iraq Freedom: Implications for Future Cyber Conflict
Dave Sherman Intelligence or Security? The Two Faces of William Friedman's "Cryptologic Coin"

SESSION 2B CLASSROOM A
Literary and Imagined: Pre-20th Century Cryptology Moderator: Greg Nedved
Katherine Ellison Cryptography and the Early Modern Literacy Counterrevolution
Richard SantaColoma Is the Voynich Manuscript a Modern Forgery? (And why it matters)
Benedek Lang The Codex of Rohonc: Unfounded and Well-Founded Attempts at Breaking the Code

SESSION 2C CLASSROOM B
Cryptology During the Cold War Moderator: Rick Ledgett
Michael Bigelow From ASA to INSCOM: Marking 40 Years of Army SIGINT
John Fox Robert Lamphere, the FBI's Cryptologic Pioneer
Ivo Juurveen David Against Goliath: Estonian SIGINT and ECM against the Soviet Army During the August 1991 Coup d'Etat Attempt
Chris Christensen The Evolving Relationship between Mathematics and Cryptology: 1951-1952, SCAG and the Beginnings of SCAMP and NSASAB

SESSION 2D CLASSROOM C
Britain: Friend or Foe? Moderator: TBD
Jamie Bisher A British-Japanese Cabal Against the US? US Intelligence Suspicions in 1920-1922
David Kohnen Special Intelligence: Anglo-American Strategic Collaboration in Naval Operations in Peace and War, 1917-1945



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LUNCH **1115 – 1215**
SPEAKER **1145 - 1205**
Anthony M. Rutkowski International Signals Intelligence Law: Provisions and History

PERFORMANCE **1215 - 1250**
AUDITORIUM
The Parkway Chorale
Commentary by Dave Hatch

SESSION 3 **1300 - 1415**

SESSION 3A AUDITORIUM

Writing the History of GCHQ

Moderator: TBD

Panelists: Tony Comer
John Ferris
James Bruce

SESSION 3B CLASSROOM A

New Thoughts on World War II

Moderator: John Fox

Paul Thomsen The Optics of MAGIC: FDR's 1941 SIGINT Stumbles and Japan's Hidden Plans for America (1940-1941)
Colin Burke New Twists on Old Tales: Crypto Triumphs and Political Meddling – Japanese Codes and the Election of 1944
Anthony Shields Soviet SIGINT Post-Stalingrad: What Do We Know Now?

SESSION 3C CLASSROOM B

Securing the Lines: Information Assurance During the Cold War

Moderator: Mark Nixon

Jonathan Reed Winkler Information Assurance, Military Communications, and the North Atlantic Cables in the Early Cold War
Lawrence X. Clifford ELINT and COMINT to Crypto: The Work of the 55th, 4080th, and 4157th Strategic Wings
David Winters Over-the-Air Rekey (OTAR): A Rogue Security Revolution

SESSION 3D CLASSROOM C

Ciphers and Crime

Moderator: Dave Cooley

David Oranchak The Unsolved Zodiac 340 Cipher: Features or Phantoms?
Craig Bauer Of Cyanide and Ciphers



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SESSION 4

1445 - 1600

PLENARY

AUDITORIUM

Writing About Cryptology & Intelligence: Challenges and Opportunities Moderator: Dave Sherman

Panelists:
Steven Aftergood
Mark Bradley
Stephen Budiansky
Michael V. Hayden

FRIDAY 20 OCTOBER 2017

Events at the Kossiakoff Center, Laurel, Maryland

SESSION 5

0800 - 0915

SESSION 5A AUDITORIUM

Remembering the Great War

Moderator: Betsy Rohaly Smoot

Robert Dalessandro (title to be determined)
Michael Warner The Intelligence Revolution in World War I
Dave Sherman William Friedman, Alastair Denniston, and Barbara Tuchman's *The Zimmermann Telegram*

SESSION 5B CLASSROOM A

German Cryptologic Issues from WWII through the Early Cold War

Moderator: Jim Reeds

Sandy Zabell The Paradox of German high-level Cryptography
Klaus Schmeh Western-German Cryptology in the Early Cold War

SESSION 5C CLASSROOM B

Topics in Cryptologic History

Moderator: TBD

John O'Hara Intelligence and the Space Age
Paul Orman Could the SIGABA have been Exploited?
(Additional speaker TBD)

SESSION 5D CLASSROOM C

Cryptology in Foreign Lands

Moderator: Tom Fogarty

Ralph Sawyer The Intercept Conundrum: Historical Theory and Practice in China and the West
Greg Nedved The 1894-1895 Sino-Japanese War Further Decrypted
Marty Busse And a Lurking League of Letter Openers: The Austrian Black Chamber



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SESSION 6

0930 - 1115

SESSION 6A AUDITORIUM

Vietnam Re-Examined

Moderator: John Tokar

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| Leif Bentsen | Recovery of the Vanished Hanoi High Command Radio (Morse) Network by Bio-Audio Devices – It Wasn't All Crypto, Baby! |
| Gabe Marshall | USAFSS in Vietnam – Defeating Tet |
| Thomas A. Reinstein | “I Honestly Believe They Would Get Run Over”: SIGINT and the 1968 Paris Peace Talks |
| Edwin E. Moise | Reading Enemy Communications and Still Not Knowing: Tonkin Gulf 1964 |
| Robert Hanyok | A Historian Confronts and Solves the Gulf of Tonkin Mystery |

SESSION 6B CLASSROOM A

The Early Cryptologists of World War I

Moderator: Mark Stout

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| Jill Frahm | Protecting the Lines: Telephone Operators and Security during World War I |
| John Dooley | Manly and Rickert – The Team That Cracked the Waberski Cipher |
| Betsy Rohaly Smoot | “Giving G2 the Goods”: The Modest Devotion to Duty of the Radio Section Men |
| Michael Bigelow | Diary of a SIGINTer: Corporal Stuart Mahanay, AEF Radio Section |
| James Bruce | Interpreter Operators (Wireless) 1916 – 1919: Britain's First COMINT Linguists |

SESSION 6C CLASSROOM B

Historical Cipher Systems

Moderator: Brenda McIntire

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| Chris Christensen | The Evolution of JN-25 and the Attacks on It |
| Martine Diepenbroek | Caesar's Cryptography in the Enigma Machine |
| George Lasry | Hagelin Cryptosystems – Historical and Modern Cryptanalysis |
| Ralph Simpson | Cylinder Cipher M-94: A Centennial Celebration |

SESSION 6D CLASSROOM C

Cryptologic Skills: A World War II Perspective

Moderator: Pam Murray

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| Tyler Morton | The Birth of the Airborne Cryptologic Linguist |
| Kyle Prescott | Winds of War: The Code-Breaking Musicians of Navy Band Unit 16 at Pearl Harbor and Beyond |
| Raymond Schmidt | 'On-the-Roof' Gang and How Traffic Analysis Aided in Defeating the Imperial Japanese Navy |



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LUNCH

1115 - 1215

SPEAKER

1145 - 1205

Richard Stewart

The Essential Role of History in Intelligence

PERFORMANCE

1215 – 1250

AUDITORIUM

Ellouise Schoettler

“The Hello Girls”

SESSION 7

1300 – 1415

SESSION 7A AUDITORIUM

Breaking Enigma: The Anglo-French-Polish Effort

Moderator: Dave Hatch

Dermot Turing

The Role of Gustave Bertrand in the “Enigma Relay”

Olga Topol

Polish Enigma Double and the “Enigma Relay”

Marek Grajek

Interrogation at Eisenberg Castle: How Two Polish Officers Saved the Ultra Secret just before Overlord

Tony Comer

The Anglo-French-Polish Relationship During WWII

SESSION 7B CLASSROOM A

Topics in World War I Cryptology

Moderator: Bill Williams

Andrew Smoot

Using COMINT in August 1914: Examples from the Tannenberg Campaign

Klaus Schmeh

The Use of Steganography in World War I

George Lasry

Deciphering ADFGVX Messages from World War I

SESSION 7C CLASSROOM B

Cryptologic Concepts and Modern Technology

Moderator: Craig Bauer

Tim Carver

An Examination of a Cryptocurrency: Bitcoin

Austin Lubetkin

Attempting Encryption Based on Neurological Development

Nils Kopal

We Need Test Vectors! Why Test Vectors Could Improve the Research on Classical Cryptography

SESSION 7D CLASSROOM C

Strong Personalities: Yardley and Denniston

Moderator: TBD

Jeffrey Berkey

The Education of a Code Breaker: The Early Life of Herbert Yardley

Joel Greenberg

Alastair Denniston: Thirty Secret Years in Signals Intelligence



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SESSION 8

1430 - 1645

PLENARY

AUDITORIUM

Concluding Remarks and Thanks

1430 - 1445

Pencil-Pushing Mamas: Women in Cryptology

1445 - 1645

Moderator: Betsy Rohaly Smoot

Jessi Garrett-Harsch

Voices from the Past: Women in Cryptology at the Front in WWII

G. Stuart Smith

Setting the Record Straight: The FBI Should Credit Elizebeth Friedman in Spy Case

Jason Fagone

Listening to Himmler's Spies: The Clandestine War of Elizebeth Smith Friedman

Jackie Uí Chionna

The Lives of Emily Anderson OBE: Codebreaker and Music Historian

Liza Mundy

Code Girls: The Lives and Contributions of American Women

Codebreakers in World War II

SATURDAY 21 OCTOBER 2017

Events at the National Cryptologic Museum

0900 – 1300

Tours of the museum given by CCH Historians, or explore on your own

0930 – 1030

Workshop on Sources for Cryptologic History

Rene Stein

Betsy Rohaly Smoot

Dave Sherman

1030 – 1130

William and Elizebeth Friedman

Moderator: Sarah Parsons

The Friedman Tombstone

Elonka Dunin

A Centennial Celebration of the Wedding of William & Elizebeth Friedman

Bill and Jew-Lee Briere