



2019 SYMPOSIUM ON CRYPTOLOGIC HISTORY

FROM **DISCOVERY** TO **DISCOURSE**

PRELIMINARY PROGRAM*

Co-Sponsored with the
National Cryptologic Museum Foundation

THURSDAY, OCTOBER 17

KOSSIKOFF CENTER IN LAUREL, MARYLAND

Registration check-in and continental breakfast available between 7:30 am – 8:30 am

SESSION 1 8:30 AM – 9:15 AM

PLENARY AUDITORIUM

Welcome	Mr. John A. Tokar, Chief, NSA Center for Cryptologic History (CCH)
Keynote Address	Mr. George C. Barnes, Deputy Director, NSA

SESSION 2 9:30 AM – 11:00 AM

SESSION 2A AUDITORIUM

Security and Conflict in Cyberspace: Uncovering the History Moderator: Dr. Michael Warner

Mr. Jason Healey	A Fierce Domain: Conflict in Cyberspace from 1986–2019
Ms. Ruth Nelson	The Origins of the Cyber Security Model(s)
Dr. Thomas Rid	The First Digital Active Measures
Mr. JD Work	Beyond Monopoly: The Emergence of Privatized Cyber Intelligence and Cryptologic Capabilities under Hostile Pressure

SESSION 2B CLASSROOM B

Contemporary Discourse about Unbroken Historic Ciphers Moderator: Ms. Laura Sawyer

Dr. Gregor Damschen	A Fibonacci-Based Lunisolar Calendar in the Voynich Manuscript (Beinecke MS 408, f68r3)
Mr. John F. Dooley	Who Wrote the Beale Ciphers Pamphlet? An Author Attribution Study
Dr. George Lasry	Modern Codebreaking of Siemens and Halske T52
Mr. David Oranchak	What Can Deep Learning Teach Us about the Unsolved Zodiac 340 Cipher?

SESSION 2C CLASSROOM C

Kagnew Station and a Stonehouse in East Africa Moderator: Mr. Mark Nixon

Mr. Bob Doan	Selections from Dick Bernard’s “The Stonehouse Story – Telemetry Collection from Soviet Space Probes – From Beginning to End” as read by Mr. Bob Doan
Mr. Don Dement	Technology in an Ancient World
Mr. Bill Semenuk	Permanent Change of Station (PCS) to Stonehouse

THURSDAY LUNCH SESSIONS 11:00 AM – 12:50 AM

DINING ROOM SESSION

11:30 AM – 12:00 PM

Ms. Liza Mundy Reflections on Discovering Cryptologic History

AUDITORIUM PERFORMANCE 12:15 PM – 12:50 PM

The Parkway Chorale, Dr. Paul Nahay, Music Director, with historical commentary by Dr. David A. Hatch

SESSION 3 1:00 PM – 2:30 PM

SESSION 3A AUDITORIUM

From UKUSA to UK/US/CAN

Moderator: Dr. David J. Sherman

Mr. Anthony M. Rutkowski How WW1 SIGINT Shaped Future Cooperation and Treaty Instruments

Dr. C. J. Jenner Churchill, Roosevelt, and the Most Secret Agreements

Ms. Maria Robson Sharing Despite Asymmetric Capabilities: Canada's Inclusion in UKUSA

Dr. Wesley Wark Joining the Club: The 70th Anniversary of the Canada-US SIGINT Agreement

SESSION 3B CLASSROOM B

Immersive Collaboration among the IC, Academy, and Industry: A Case Study of the Laboratory of Analytical Sciences (LAS)

Moderator: Dr. Kathleen M. Vogel

Dr. Beverly Baker Tyler The Motivation of LAS and the Structure of its Academia-Industry-Government Partnerships

Dr. Jessica Katz Jameson The Challenges and Solutions that LAS has had in Implementing their Proposed Immersive Collaboration

Dr. Kathleen M. Vogel Examples of Tradecraft Development and Project Successes

Dr. Sharon M. B. Joines Development and Implementation of Interventions at LAS and Lessons Learned

SESSION 3C CLASSROOM C

Cryptologic Machines Up Close

Moderator: Ms. Jennifer Wilcox

Dr. Nicholas Gessler The American Brake Shoe Company "Cook" Cryptograph: A Comparison of its Mechanical and Electrical Implementations

Mr. Jim Oram The Enigma: A Demonstration

Ms. Jennifer Wilcox The Enigma vs. the Cryptanalytic Bombe: An Overview

Mr. Timothy Mucklow The SIGABA: An Overview and Demonstration

SESSION 4 3:00 PM – 4:15 PM

PLENARY AUDITORIUM

Government Communications Headquarters (GCHQ) History

Moderator: Dr. Bill Williams

Mr. Jock Bruce What Happened Next? British Army Sigint, 1919-1939

Mr. Tony Comer GCHQ Centenary History

Dr. John Ferris GCHQ during the Cold War

FRIDAY, OCTOBER 18

KOSSIAKOFF CENTER IN LAUREL, MARYLAND

Registration check-in and continental breakfast available between 7:15 am – 8:00 am

SESSION 5 8:00 AM – 9:30 AM

SESSION 5A AUDITORIUM

World War II Cryptanalytic Discoveries

Moderator: Ms. Brenda McIntire

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| Mr. Richard R. Lonergan | Re-Evaluating the Cryptological Dividends of the Battle of Nomohan at 80: The Impact of Soviet Breakthroughs into Japanese Code and Cipher Systems |
| Dr. Francis Jordan-Rozwadowski | What the Metadata Say: A Study of OKW/Chi Decrypts of Polish Intelligence Traffic |
| Dr. Chris Christensen | Genevieve Grotjan's Discovery |
| Dr. David Kenyon | How Fishy was ULTRA? – The Role of Encrypted Teleprinter Traffic in the Intelligence for Operation OVERLORD |

SESSION 5B CLASSROOM B

Discovering Deceit

Moderator: Ms. Marlisa Smith

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| Mr. Mark Nixon | 60th Anniversary Overview of the Joseph S. Petersen Case |
| Mr. Samuel Stephens | The Ronald Pelton Espionage Case |
| TBA | The Pollard Case |

SESSION 5C CLASSROOM C

Discussions of Herbert O. Yardley

Moderator: Ms. Jennifer Casten

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| Mr. Jeffrey P. Rogg | Deciphering the American Black Chamber: The Rise and Fall of the Cipher Bureau |
| Mr. Gregory J. Nedved | Herbert Yardley Revisited: What Does the New Evidence Say? |
| Dr. Craig P. Bauer | The Langen-Yardley Correspondence |

SESSION 6 9:45 AM – 11:15 AM

SESSION 6A AUDITORIUM

The Timeless Need for Security

Moderator: Ms. Penny Horgan

Ms. Martine Diepenbroek	Aeneas Tacticus' Fire-Signaling and the German ADFGX and ADFGVX Ciphers
Mr. Ralph Sawyer	Secrecy: Historical Concepts and Practice in China
Mr. Marty Busse	COMSEC Lietuvos Partizanų
Sir Dermot Turing	The Typex Scare of 1943

SESSION 6B CLASSROOM B

Exploring Topics of World War II

Moderator: Mr. Emmitt Baker

Dr. Allyn Enderlyn	A Portrait of Arthur Enderlin
Mr. Klaus Schmeh	Steganography Used by Prisoners of War and Concentration Camp Inmates
Dr. Paul A. Thomsen	Terminating the Signal: How SIGINT Turned the Tide against Axis Submarine Predation in World War II
Mr. Robert J. Hanyok	Answering the Age-Old Commander's Question: What the Hell is Going on out There? – The U.S. Army's Signal Information and Monitoring Units and the Phantom Service

SESSION 6C CLASSROOM C

A Public View of Cryptology

Moderator: Mr. John A. Tokar

Dr. Katherine Ellison	From 1719–2019: Daniel Defoe's Legacy in the Public Opinion of Intelligence and Cryptology
Dr. David J. Sherman	The Codebreakers' War: David Kahn, Macmillan, the Government and the Making of a Cryptologic History Masterpiece
Ms. Sarah Mainwaring	Cryptography and SIGINT – Half the Picture Revealed?
Ms. Jillian Foley	Lessons from Teaching the History of Cryptography

FRIDAY LUNCH SESSIONS 11:15 AM – 1:00 PM

DINING ROOM SESSION

11:45 AM – 12:15 PM

Dr. David A. Hatch Six Little Symposia and How They Grew: The History of History

AUDITORIUM PERFORMANCE 12:30 PM – 1:00 PM

Mr. Bill and Mrs. Jew-Lee Briere An Enduring Cryptologic Marriage: A Tribute to William and Elizebeth Friedman (A Reprise of the 2017 Presentation)

SESSION 7 1:15 PM – 2:45 PM

SESSION 7A AUDITORIUM

Continuing Discourse on the Impact of World War I Cryptology

Moderator: Dr. John Ferris

- Dr. David A. Hatch The Other Zimmermann Telegrams
- Dr. George Lasry Deciphering German Diplomatic and Naval Codes from WWI
- Col Greg Eanes USAF (Ret) Covert POW Communications in the First World War
- Mrs. Betsy Rohaly Smoot Discovering the Cryptologists of World War I

SESSION 7B CLASSROOM B

The History of Block Ciphers

Moderator: Prof. Jean-Jacques Quisquater

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- Dr. Nicolas T. Courtois
- Mr. Klaus Schmeh
- Mr. Marek Grajek

SESSION 7C CLASSROOM C

Topics from Cold War-Era Cryptologic History

Moderator: Mr. Trumbull Soule

- Mr. Gabe Marshall Innovation: From the United States Air Force Security Service (USAFSS) to the Twenty-Fifth Air Force (25-AF) – On Time Solutions in Cryptologic Operations
- Mr. Mark Borgerson Pony Express: Telemetry Collection aboard the 1033-Class Destroyers
- Dr. John O'Hara Analysis of Soviet Space and Missile Programs during the Early Cold War

SESSION 8 3:15 PM – 4:35 PM

PLENARY AUDITORIUM

Concluding Remarks

Mr. John A. Tokar, Chief, CCH

Queens of Code: Women of Technology, Intelligence, and Secrets

Moderator: Ms. Liza Mundy

- Ms. Eileen Buckholtz
- Ms. Kathleen Jackson
- Dr. Nancy Welker
- Ms. Jessica Garrett-Harsch

SATURDAY, OCTOBER 19

EVENTS AT THE NATIONAL CRYPTOLOGIC MUSEUM, ANNAPOLIS JUNCTION, MD

SESSION 9 9:00 AM – 10:00 AM

MAGIC ROOM

Research Workshop: Working with Personal Correspondence Collections

Moderator: Ms. Rene Stein

Ms. Maren Read

Mr. Robert Simpson

Tours of the National Cryptologic Museum begin at 9:00 am and 10:15 am

**A final program will be available to attendees during the Symposium. Unless speakers say otherwise, they are speaking under a policy of non-attribution and should not be quoted or cited without their permission. Presentations are the views of the speakers alone, and do not represent those of the US Government or the National Security Agency. Speakers and their presentations are not endorsed by the US Government or the National Security Agency.*