

**DEHS Conference on Security & Intelligence
Wednesday 27 November 2019**

Venue: Smith Centre, Science Museum, Exhibition Road, London, SW7 2DD

Programme

- 09.30–09.55: Registration
- 09.55–10.05: Opening remarks by Dr Elizabeth Bruton and Keith Thrower, DEHS President
- 10.05–10.15: Welcome by Nicholas Spindler, Head of Philanthropy at the Science Museum

Morning Session

- 10.15–11.00: Keynote address by Tony Comer, GCHQ Historian. Reflections at the Start of our Second Century
- 11.00–11.45: Prof John Ferris. A Socio-Historical Analysis of British Signals Intelligence, 1914-1992
- 11.45–12.00: Discussion
- 12.00–12.30: Keith Thrower. The Fullerphone in two world wars
- 12.30–13.30: Buffet lunch

Afternoon session

- 13.30–14.00: Dr Olga Topol. Enigma Relay – A Story in One Object.
- 14.00–14.45: Dr David Kenyon. The Intelligence Factory -Bletchley Park and GC & CS 1938-1946
- 14.45–15.00: Discussion
- 15.00–15.15: Tea/coffee
- 15.15-15.45: Dr Helen Fry. 'Listening-in': What was discovered from Senior German Officers
- 15.45-16.15: Jacqui Chard. Present day cyber threat
- 16.15–16.25: Discussion
- 16.25–16.30: Winding up
- 16.30–17.30: Visits at 4.30pm and 5pm to Top Secret exhibition

Visit to Top Secret exhibition

We can have two tours of the Top Secret exhibition after the symposium – for 25 people each, one at 4.30pm and one at 5pm. Bookings for tours will be on 'first come –first served' basis. In your reply to kthrower@waitrose.com, please indicate if you would like a tour and which timeslot. Please indicate if you have previously visited the exhibition and your name will be added to a waiting list.

Abstracts

Keynote address by Tony Comer, GCHQ Historian: Reflections at the Start of our Second Century

Abstract: In GCHQ's Centenary Year, and as he approaches retirement, GCHQ Departmental Historian Tony Comer looks back on and draws conclusions from a hundred years of British signals intelligence.

Biography: Tony Comer joined GCHQ in 1983 as a Spanish and Portuguese linguist. Until he became Historian in 2009 he spent all of his career in operational roles, including six years as UK representative on NATO's Sigint Committee. He has been closely involved with the Science Museum's TOP SECRET Exhibition since taking part in the first meeting about it in 2015.

Professor John Ferris. A Socio-Historical Analysis of British Signals Intelligence, 1914-1992

Abstract: This paper examines how British signals intelligence organisations recruited personnel during two world wars, the interwar period, and after 1945, and the sociology of these organisations. These practices varied widely, including organisations which recruited almost exclusively from university graduates, to those which operated with strikingly few of them. The paper discusses the status of BAME, Jews, women and personnel originally drawn from the working class, in British signals intelligence.

Biography: John Ferris is a Fellow of the Royal Society of Canada. He is Professor of History at The University of Calgary, Honorary Professor in The Department of International Politics, The University of Aberystwyth, and also in the College of Business, Arts and Social Sciences at Brunel University. He is an Associate Member of Nuffield College, Oxford. He has written five books and 120 articles/chapters in books, in diplomatic, imperial, intelligence, international, military and strategic history, and strategic studies. He has written widely on topics ranging from intelligence in the two world wars, and power-politics in the Asia-Pacific region between 1850-1941. In particular, he specialises in the history of signals intelligence. He was Historical Cryptologic Scholar in Residence at The National Security Agency, 2008-9, and presently is the authorised historian of GCHQ. That history will be published in 2020.

Keith Thrower. The Fullerphone in two world wars

Abstract: Soon after the outbreak of World War 1 it became evident that the Germans were listening-in to both telephony and Morse transmissions to and from the battlefields. After a while it was realised the Germans were tapping into earth currents produced by the allied transmissions, weak as they were, and amplifying these using newly developed valves by the AEG Telefunken Company. In 1916, Captain Fuller of the Royal Engineers invented a unique piece of equipment, later named the Fullerphone, which provided secure Morse transmissions that were almost impossible to intercept. This was then used throughout WW1, WW2 and into the 1950s. The talk provides the background to the invention and its operation. More details are provided in a paper to be published by the DEHS in its quarterly journal *Transmission Lines*.

Biography: Keith is President of the DEHS. He worked for the Racal Electronics Company for 35 years and was managing director of the central research laboratories for thirteen of these. He was also technical director of the Racal Chubb security company and research director of the Radio Group of companies.

He was President of the Institution of Electronic and Radio Engineers in 1986-7, prior to its merger with the then IEE. Also, in 1986, he was awarded an OBE for services to exports.

He is author of three books on radio valves and has been a volunteer at the Science Museum since the early 1960s.

Dr Olga Topol. Enigma Relay – A Story In One Object

Abstract: In 1939 at a secret facility in Pyry (Poland) Polish codebreakers finally showed their hand to the Allies and revealed how advanced they were in the battle against Nazi Germany's Enigma code. Not only were the mathematicians able to crack the code by the sheer power of the human brain, but later on they made further advancements building Polish Enigma Doubles and electro-mechanical machines, 'bombas', to further simplify the codebreaking process. When the war broke out Polish codebreakers had to flee from the Germany-occupied Poland and settle for some time in France where in a cooperation with the Codes and Ciphers Bureau of French Intelligence they managed to put together Enigma 'doubles'. One of these machines, which is a part of the Top Secret exhibition, re-emerged after the end of the war and is now in possession of the Jozef Pilsudski Institute in London. This extraordinary artifact is a silent witness to the Allied Enigma Relay.

The presentation will shed some light on this astonishing object and explain how it is still a part of a story that brings former Allies together.

Biography: Dr Olga Topol is a cultural specialist and museologist. Her research interests concentrate around cultural identity issues and cultural memory of conflict, particularly in museums. She is a curator at the Jozef Pilsudski Institute of Research in Modern History in London.

Dr David Kenyon. The Intelligence Factory -Bletchley Park and GC & CS 1938-1946

Abstract: Bletchley Park was the home from 1938-1946 of the Government Code and Cypher School, the organisation now known as GCHQ. During the Second World War the organisation grew rapidly, and many of the approaches to signals intelligence which are now commonplace were first developed. This presentation looks at that growth, and some of Bletchley Park's key legacies for the modern world.

Biography: Dr David Kenyon is responsible for historical research in support of all public content at Bletchley Park, the Second World War code-breaking site in Buckinghamshire, now a museum. This includes exhibition material as well as visitor tours, web information and broadcast items. He also appears as a spokesman for Bletchley Park on TV and radio. His latest book, Bletchley Park and D-Day was published by Yale University Press in 2019.

He was previously a free-lance military historian and museum consultant and has worked on and appeared in numerous historical TV and film projects. (These include the Trench Detectives series, shown on History channel, and work as Historical Advisor to the Spielberg film production of Warhorse in 2010).

Dr Helen Fry. Listening In: The Tech War and intelligence in World War Two

Abstract: Helen Fry reveals the bugging of Hitler's generals in WWII and how technology was used to listen into their private conversations and glean intelligence for the war effort, working very closely with Bletchley Park. But embedding microphones inside walls of stately houses does not necessarily lead to loose tongues. Helen uncovers the deception by British intelligence that combined technology with HUMINT, and provides a snapshot of some of the exciting new finds on site today from the secret war at Trent Park, North London.

Biography: Historian Dr Helen Fry has written over 25 books, primarily on 10,000 Germans who fought for Britain, also intelligence and espionage in WWII. Her latest book is "The Walls Have Ears: The Greatest Intelligence Operation of WWII (Yale University Press). She is an ambassador for the Museum of Military Intelligence (Milton Bryan) and a founding trustee of Trent Park Museum Trust.

Jacqui Chard. Present day cyber threat

Abstract: Jacqui Chard from the National Cyber Security Centre will talk about the Cyber Threats we face in the UK, the sources and nature of cyber attack and the trends that the National Cyber Security Centre has seen over the last 3 years since it came into operation in October 2016.

Biography: Jacqui Chard is a Deputy Director in the UK National Cyber Security Centre (NCSC). Her role is to raise the cyber resilience of the defence and national security sector by marshalling the activities of the NCSC to enable organisations to understand the threat and vulnerability, protect their most sensitive systems and critical capabilities from cyber attack and get support through any major cyber incidents.

Delivery is through collaborative partnerships with departments, international allies, niche sovereign industry, UK small businesses, wider defence and security industrial base and academia. Priorities include securing supply chains, promoting good cyber hygiene and positive security culture, promoting the development and use of systems that are secure by design and influencing Government policy. She has an electronics engineering background (integrated circuit design, embedded systems and product design) and has over 30 years' experience in the sector. Previous roles include security product development, project and programme management and a range of mission and operational leadership roles. She has spent time on secondment in a security product company, worked in other government and partner organisations and was the Cabinet Office Head of Information Assurance Capability.

She is passionate about diversity and inclusion as the means for businesses and organisations to thrive and succeed. She is a member of both the IET and APM professional associations.