

Closing Remarks from General Co-Chairs

Shujun Li, University of Kent, UK



Radha Poovendran, University of Washington, USA

A Review of SecureComm 2021

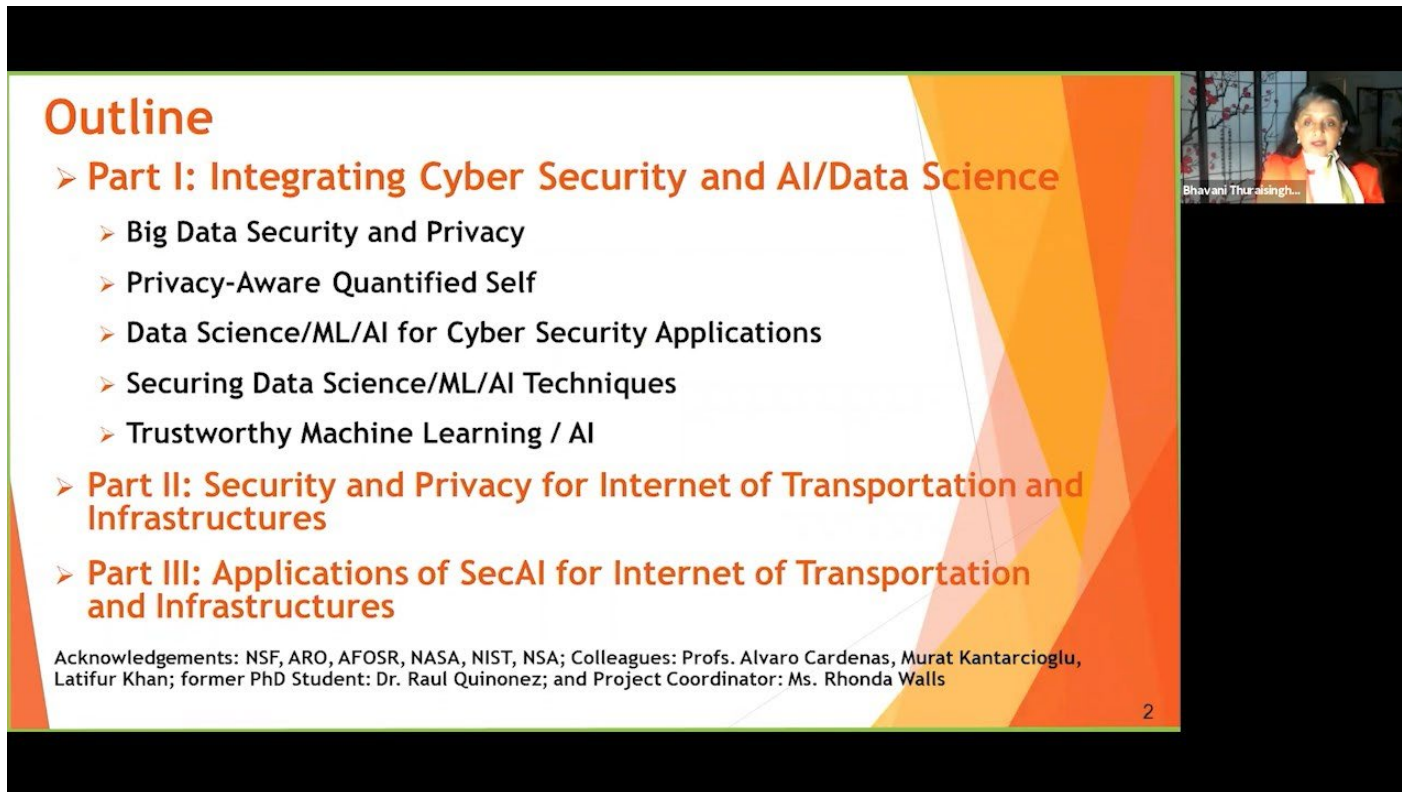
Socio-psychological challenges?

- The number of attendees of different sessions varied over time, mostly ranging from 10 to 30.
- Some authors could not attend or chose not to attend for the Q&A session of their paper.
 - This year we did not have a “no show” penalty to appreciate the difficulties authors may have during the COVID-19 pandemic.
- Some authors were late for the Q&A session of their paper (potentially a time zone confusion issue).
- The audience could be more active in asking questions.
- Many must have not been able to attend some sessions due to other commitments.
- \Rightarrow Physical conferences are important!

A technical challenge?

-  vs 
 - On Day 3 (8th September Wednesday) many participants experienced problems connecting to the Zoom meeting of the Conference.
 - We decided to move to MS Teams as an alternative platform for the second half of the day.
 - Fortunately, this worked well.
- ⇒ Lesson learned for future online conference organisers
 - Do not depend on a single teleconferencing platform.
 - Make a backup plan!

- Keynote speaker I
 - **Bhavani Thuraisingham** (University of Texas at Dallas, USA):
Integrating Cyber Security and Data Science/Artificial Intelligence with Applications in the Internet of Transportation Systems



Outline

- **Part I: Integrating Cyber Security and AI/Data Science**
 - Big Data Security and Privacy
 - Privacy-Aware Quantified Self
 - Data Science/ML/AI for Cyber Security Applications
 - Securing Data Science/ML/AI Techniques
 - Trustworthy Machine Learning / AI
- **Part II: Security and Privacy for Internet of Transportation and Infrastructures**
- **Part III: Applications of SecAI for Internet of Transportation and Infrastructures**

Acknowledgements: NSF, ARO, AFOSR, NASA, NIST, NSA; Colleagues: Profs. Alvaro Cardenas, Murat Kantarcioglu, Latifur Khan; former PhD Student: Dr. Raul Quinonez; and Project Coordinator: Ms. Rhonda Walls


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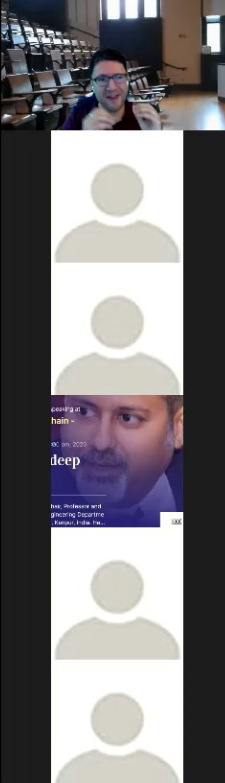
Bhavani Thuraisingham...

- Keynote speaker II
 - **Engin Kirda** (Northeastern University, USA): *Transitioning academic research into industry: Lessons, experiences, the good and the ugly*

Lesson 5

- If you are starting a company, be prepared to pivot
 - Sounds like an obvious lesson, but it absolutely is true
 - We originally wanted to sell an anti-botnet solution
 - We pivoted at least twice: Sandboxing (similar to Fireeye), and then AI-based detection



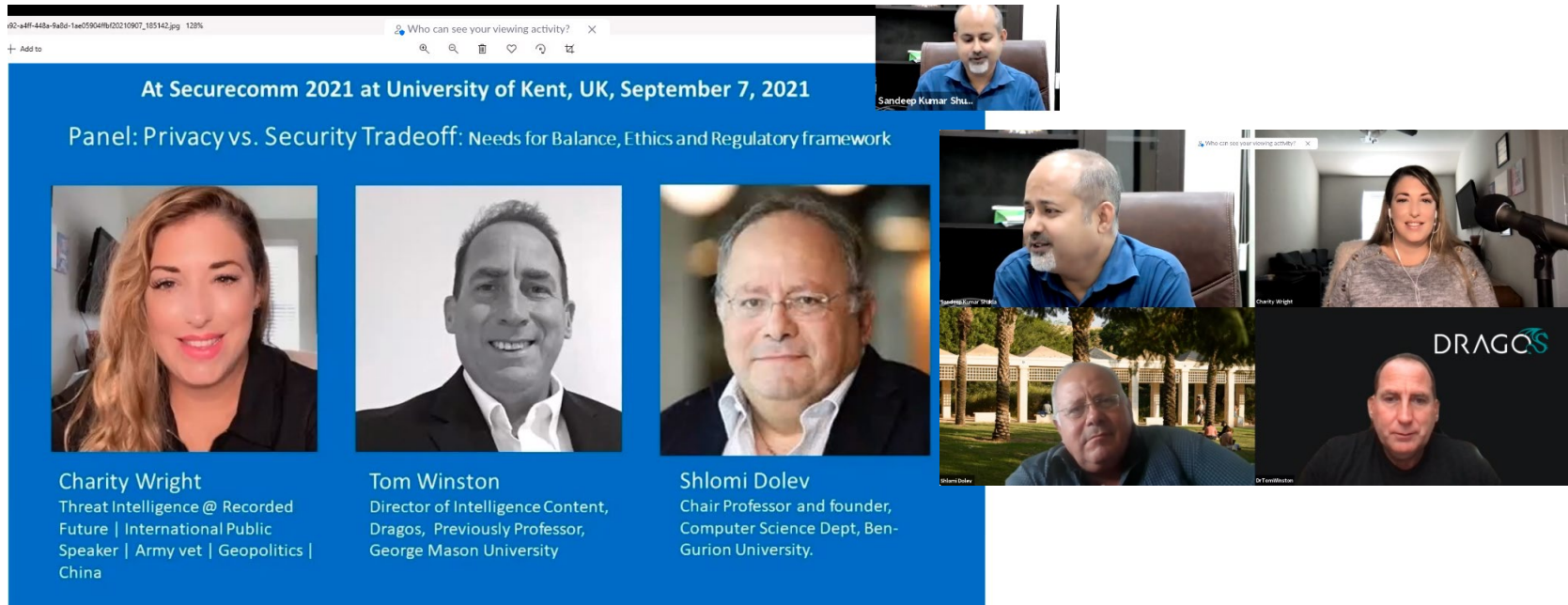


Securecomm 2021

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Acknowledgments

- Panel coordinator and panelists
 - **Sandeep K. Shukla**, IIT Kanpur, India; **Shlomi Dolev**, Ben Gurion University, Israel; **Charity Wright**, Recorded Future, USA; **Tom Winston**, Dragos, Inc., USA
 - Topic: *Privacy vs Security Trade-off: Needs for Balance, Ethics and Regulatory Framework*



At Securecomm 2021 at University of Kent, UK, September 7, 2021

Panel: Privacy vs. Security Tradeoff: Needs for Balance, Ethics and Regulatory framework

Charity Wright
Threat Intelligence @ Recorded Future | International Public Speaker | Army vet | Geopolitics | China



Tom Winston
Director of Intelligence Content, Dragos, Previously Professor, George Mason University


Shlomi Dolev
Chair Professor and founder, Computer Science Dept, Ben-Gurion University.

- Session chairs

- **Anyi Liu**, Oakland University, USA; **Sanjay Bhattacharjee**, University of Kent, UK; **Giovanni Apruzzese**, Universität Liechtenstein; **Hervé Debar**, Télécom SudParis, Institut Mines-Télécom, France; **Kaitai Liang**, TU Delft, The Netherlands; **Gregory Blanc**, Télécom SudParis, Institut Polytechnique de Paris, France; **Moti Yung**, Google Inc., USA / Columbia University, USA; **Virginia Franqueira**, University of Kent, UK; **Sven Dietrich**, City University of New York, USA; **Kalpana Singh**, IRT SystemX, France; **Sokratis K. Katsikas**, Norwegian University of Science and Technology, Norway; **David Arroyo**, Institute for Physical and Information Technologies (ITEFI), Spanish National Research Council (CSIC), Spain; **Budi Arief**, University of Kent, UK; **Roger A. Hallman**, Naval Information Warfare Center (NIWC) Pacific & Dartmouth College, USA; **Ali Ismail Awad**, Luleå University of Technology, Sweden; **Gareth Howells**, University of Kent, UK

Acknowledgments

- PhD student helpers (all with the  | )
 - **Ali Raza** (also with University of Lille in France for a dual-award PhD study)
 - **Enes Altuncu**
 - Matthew Boakes
 - Joseph Kearney
 - Pooja Khanna
 - Keenan Jones
 - Nandita Pattnaik
 - Jamie Pont
 - Yichao Wang

- Staff of  **EAI**
INNOVATING RESEARCH
 - **Conference Manager:**
 - **Aleksandra Sledziejowska** (2020-21)
 - Viltare Platzner (2021, covering Aleksandra when she was on leave)
 - Lukas Skolek (2019-20)
 - **Publications Coordinator:** Lucia Sedlarova
 - **Venue Manager:** Katarina Srnanova
 - + Others who supported the Conferences from EAI

- Repeated thanks to
 - Members of the organising committees
 - Members of the TPC
 - Workshop co-chairs
 - All reviewers
 - Members of SecureComm Steering Committee
 - Authors
 - Participants
 - ...

Looking Forward

- In addition to **SecureComm 2022**, please also consider submitting to and attending the following conference to be held at the University of Kent:
 - 5-8 September 2022: **ICICS 2022** (24th International Conference on Information and Communications Security)
 - Website: <https://icics2022.cyber.kent.ac.uk/>
 - Tentatively July 2023: **IFIP HAISA 2023** (17th IFIP International Symposium on Human Aspects of Information Security & Assurance)
 - More events at <https://research.kent.ac.uk/cyber/events/>

**University of
Kent** | Institute of
Cyber Security
for Society
(iCSS)

EPSRC

Engineering and Physical Sciences
Research Council

Academic Centre of Excellence
In Cyber Security Research

ACE-CSR



in association with

**National Cyber
Security Centre**

iCSS: an ACE-CSR in the UK

- ACE-CSR = Academic Centre of Excellence in Cyber Security Research
 - 2015-2017 and 2018-2022
- Currently 19 ACEs-CSR in the UK
 - 15 ACEs-CSR between 2015-2017



“We are excited to be given the ACE-CSR status as an acknowledgement of the excellent research in cyber security at the University of Kent.”

Prof Shujun Li
University of Kent



People: Core Members (16)



**3 Schools: School of Computing, School of Engineering,
School of Politics and International Relations**

People: Associate Members (59)

1. School of Social Policy, Sociology and Social Research: 15
2. School of Computing: 15
3. School of Psychology: 8
4. School of Engineering: 5
5. Kent Business School: 4
6. Kent Law School: 4
7. School of Politics and International Relations: 2
8. School of Mathematics, Statistics and Actuarial Science: 2
9. School of Physical Sciences: 1
10. School of Economics: 1
11. School of Anthropology and Conservation: 1
12. Kent School of Architecture and Planning: 1

Interdisciplinarity!

Research: 4 main themes

1. **Socio-technical Security and Privacy**

- Human factors and beyond (psychological, legal, economic, cultural and societal aspects)



2. **Authentication and Authorisation**

- User and device authentication, access control, authorisation, identity management, ...



3. **Communication and Network Security**

- Cloud security, network security protocols, IoT security, RFID security, ...



4. **Security Testing and Verification**

- Automated vulnerability detection, malware analysis, formal methods for security, ...



1. AI and Security

- Applications of AI technologies (data mining, machine learning, visualisation) to cyber security; security of AI models and systems



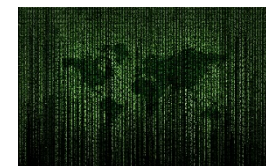
2. Digital Forensics and Online Harms

- Digital forensics, cybercrime, online child protection, false information, ...



3. Information Hiding

- Steganography/steganalysis, watermarking, ...



4. Quantum Cyber Security

- Quantum-resistant cyber security systems based on quantum mechanics



- Innovation activities
- Education-related activities
 - Degree programmes
 - **MSc Cyber Security**
 - ...
 - Cyber-related modules
 - Some shared across schools
 - Extra-curricular activities for students
- Wider activities
 - Outreach, professional training, awareness, public engagement, media communication, ...

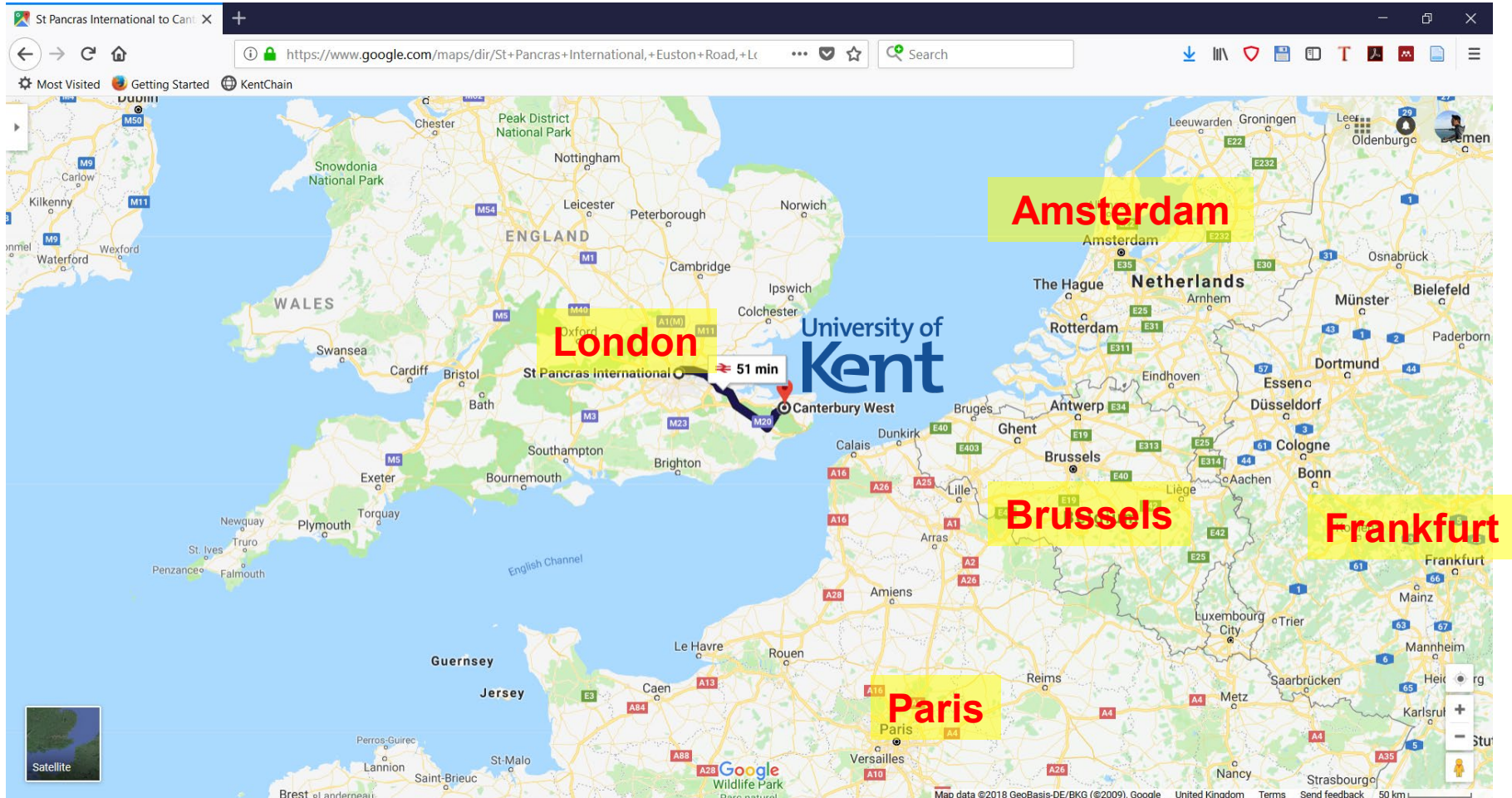
Certified Degree



in association with
National Cyber
Security Centre

University of
Kent | The UK's
European
university

Where is University of Kent?



Fastest trains from/to Canterbury: **London**: ~1 hour; **Brussels**: ~3 hours;
Paris: 3-4 hours; **Amsterdam**: 5-6 hours; **Frankfurt**: 6-7 hours

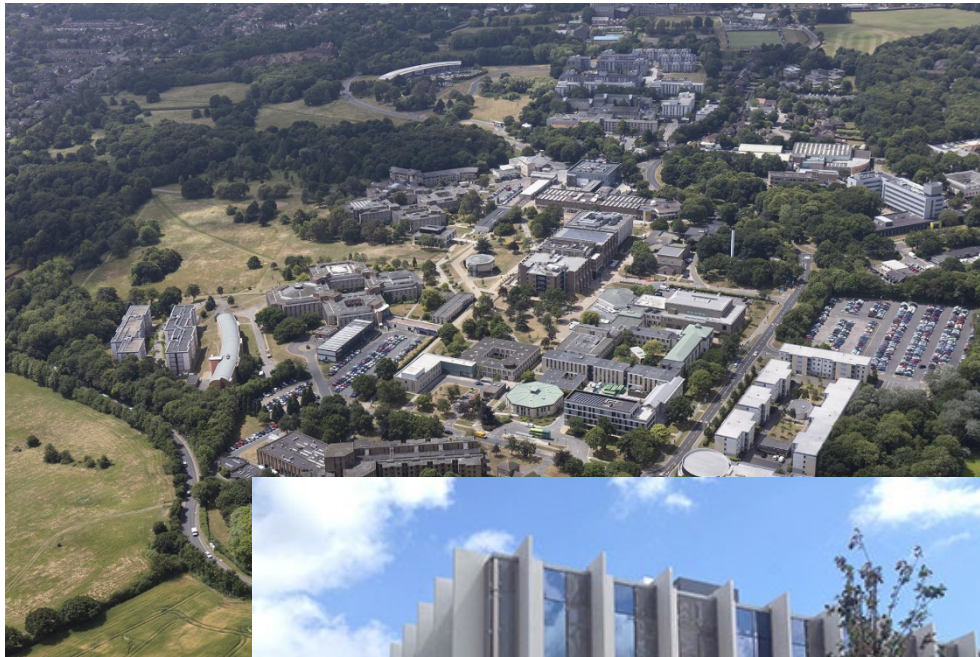
Basic information

- Founded in 1965
- A [plate glass university](#)
 - Others: University of Sussex (1961), University of York (1963), University of East Anglia (1963), Lancaster University (1964), University of Essex (1964/5), University of Warwick (1965), ...
- [The UK's European University](#)
 - UK: **Canterbury** and Medway
 - **Europe: Paris** (France) and **Brussels** (Belgium)
- Student numbers: ~20,000



Canterbury campus

- The main campus of the University



Canterbury Cathedral



Conference facilities

- Selected buildings and rooms



On-campus accommodation



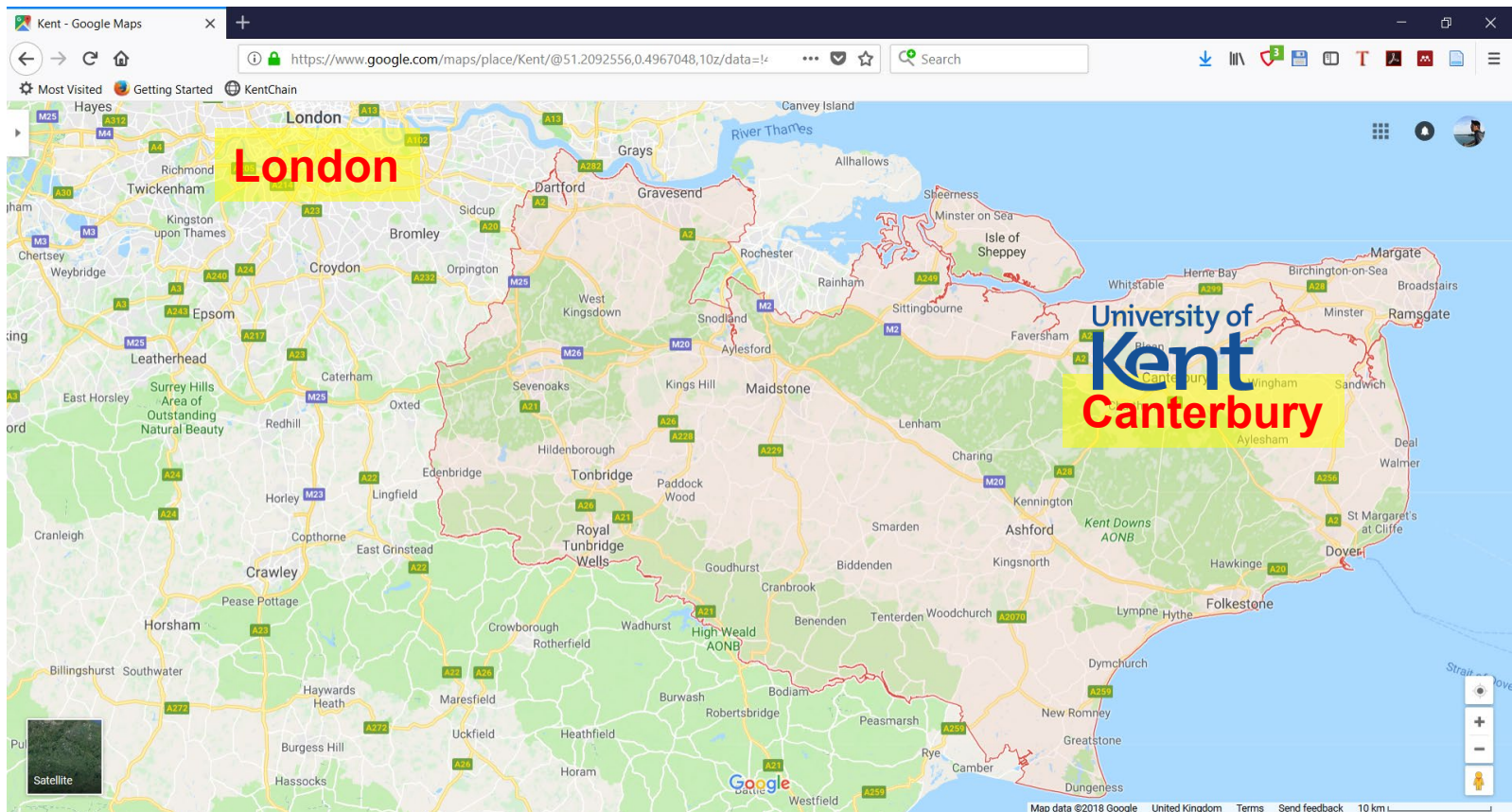
On-campus dining options





Kent County: “Garden of England”

- A “home county” = Neighbour of (Greater) London



- A UNESCO World Heritage Site
 - [Canterbury Cathedral](#): the seat of the Church of England, one of the oldest and most famous Christian structures in England, founded in 597, completely rebuilt from 1070 to 1077
 - [St Augustine's Abbey](#): marking the rebirth of Christianity in southern England, founded shortly after 597 by St Augustine
 - [St Martin's Church](#): the oldest parish church in continuous use and the oldest church in the entire English-speaking world, founded before 597

- A UNESCO World Heritage Site

- [Canterbury Cathedral](#): the seat of the Church of

England. It is the largest and oldest Christian church in the United Kingdom. The current structure is mostly rebuilt from the 12th century.

- [St Augustine](#): the first Christian missionary to Britain, who arrived in 597 AD. He is buried in the cathedral.

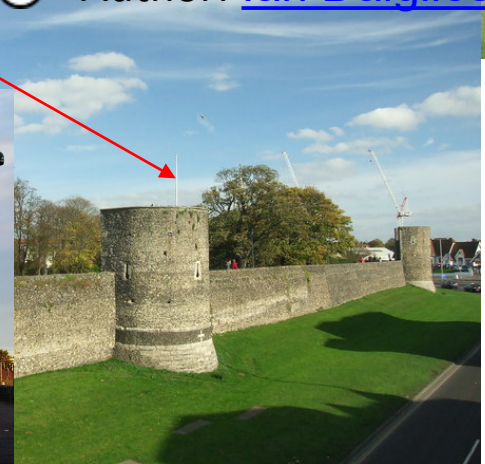
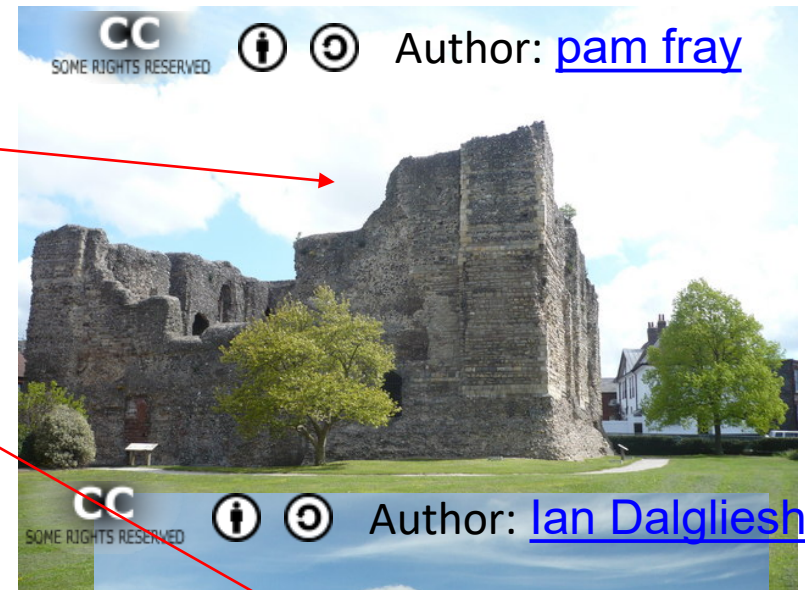
- [St Martin](#): the first Bishop of Canterbury, who died in 531 AD. He is buried in the cathedral.



(City of) Canterbury

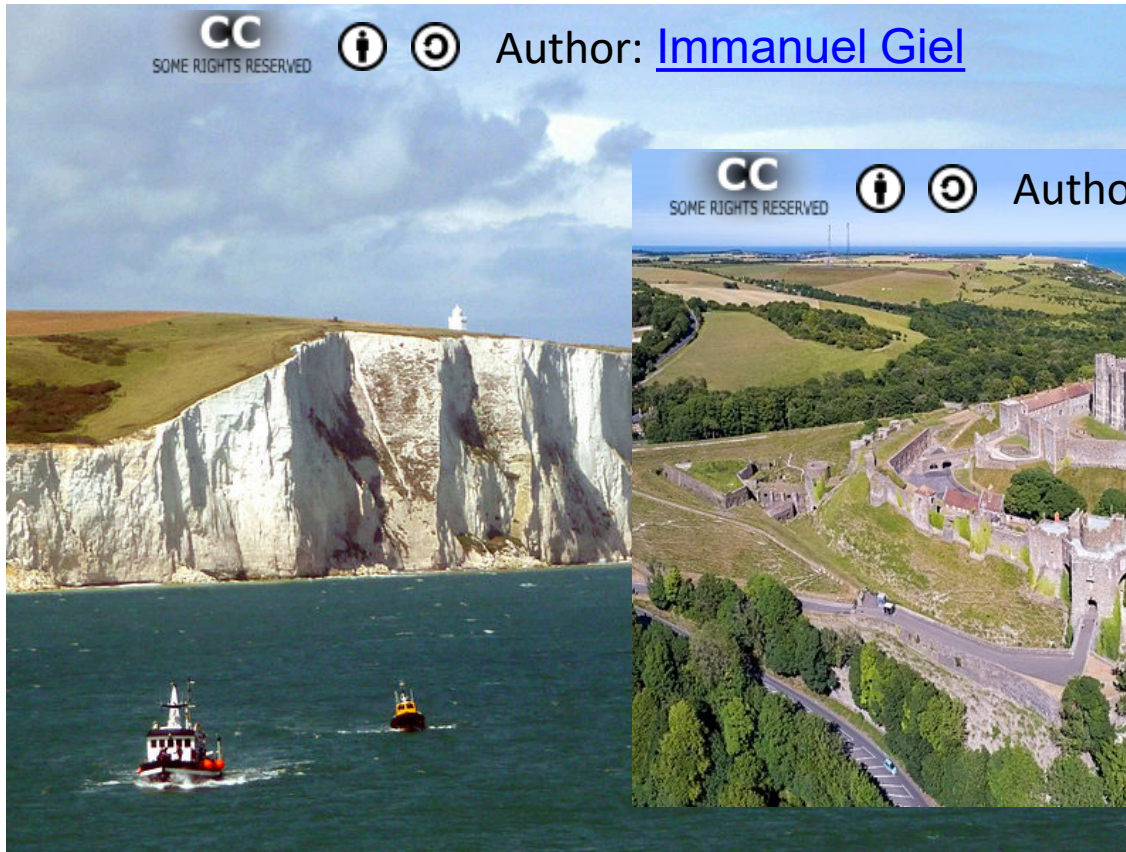
- Other landmarks

- Canterbury Castle
- West Gate + Westgate Parks
- Canterbury city walls
- Dane John Gardens
- Great Stour (river)



Other famous places @ Kent

- [White Cliffs of Dover](#) + [Dover Castle](#): 30-40 mins by car and train from Canterbury



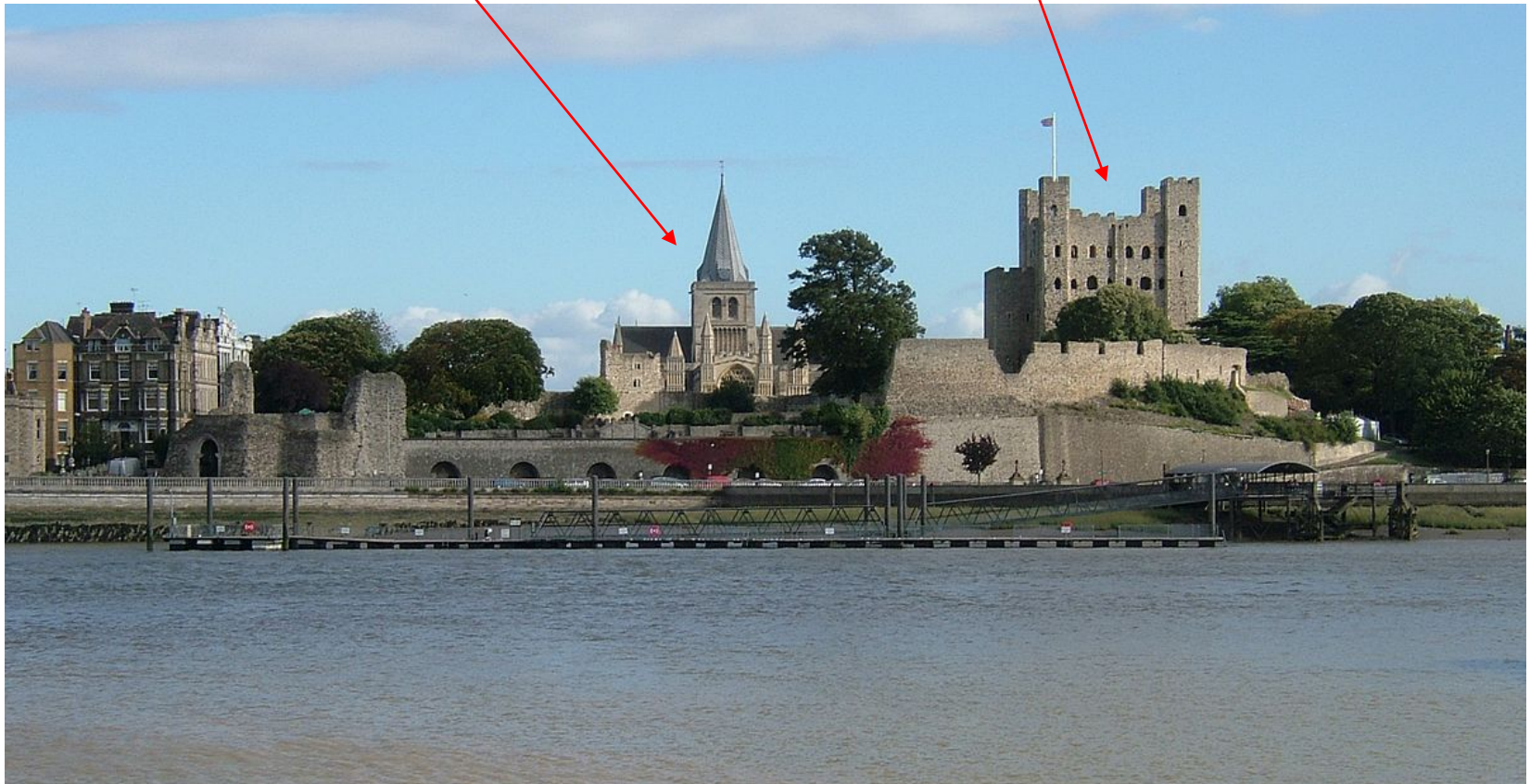
Other famous places @ Kent

- [Leeds Castle](#): ~30 mins by car from Canterbury



Other famous places @ Kent

- [Rochester Cathedral](#) + [Rochester Castle](#): ~40 mins by car from Canterbury



Thanks for attending
SecureComm 2021!