TILTING perspectives 2017
Regulating a connected world

17-19 May 2017
Tilburg, The Netherlands
www.tilburguniversity.edu/tilting2017
**Registration and information desk**

The registration and information desk can be found in the foyer of the Dante building. The desk staff will be able to help you with queries regarding the conference and your stay in Tilburg. Requests for postings on the conference Newssite and Newsfeed can also be placed at the registration desk.

**Name badge**

You will receive a name badge upon registration. The badge contains details about WiFi at the conference, conference dinner & social tickets (if applicable) and provides priority access to the Mirror Room. **Please ensure that your badge is visible for the duration of the conference.**

**Newsfeed**

Up to date information about the conference, program changes, questions, lost & found, etc, is available on: [http://tilting2017.nl](http://tilting2017.nl)

**Internet access**

You can access the campus WiFi network through Eduroam, or through the details provided on your badge.

**Post-it wall**

You can use the post-it wall and the Conference Newssite (through the registration desk) to announce meetings, vacancies at your organization, or field ideas, requests etc. The post-it wall can be found in the Foyer of the Dante building near DZ-2.

**Taxis**

The registration and information desk is unable to arrange the taxi for you. Please call the taxi service yourself as this will speed up the process by limiting unnecessary steps in the chain of getting a taxi. You will only need to state your name and telephone number.

- Taxi Tilburg: +31 13 7777777
- TCMB: +31 13 5838383
- Taxi Reeshof: +31 13 8501111
- The pickup location is: Hogeschoollaan/prof Verbernelaan (Dante building)

**Restaurants**

**Close to the University**

- **Tuinhuizen Culinair**
  - Westermarkt 5 (+31) 13 4634868

- **La Cabaña**
  - Academielaan 73 (+31) 13 4673384
  - €€ - €€€

- **Het Dorstig Hert**
  - Bredaseweg 397 (+31) 13 4671085
  - €€ - €€€

**City center**

- **Taste!**
  - Heuvelpoort 300 (+31) 13 5353296
  - €€€€

- **De Pannekoekenbakker**
  - Heuvelstraat 40 (+31) 13 5361426
  - €€ - €€€

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  - Bredaseweg 204-08 (+31) 13 5365805
  - €€ - €€€

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  - Kempenaarplaats 156 (+31) 13 8228200
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- **Cinecitta**
  - Willem II straat 29 (+31) 13 9022996
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  - Telegraafstraat 62 (+31) 13 5432266
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- **Happy Italy**
  - Heuvelstraat 126 (+31) 13 737 030
  - €

**Getting there and back**

The nearest railway station to Tilburg University is ‘Tilburg Universiteit’. This station is frequented twice hourly by trains from/to Tilburg and Breda by regional trains (Sprinters). Most convenient to travel to Amsterdam or Rotterdam and The Hague is to take the Sprinter to Tilburg and change to an intercity. Consult [http://ns.nl](http://ns.nl) for current times.

Tilburg University can be reached by bus line 4 from Tilburg Central Station (direction Reeshof). Consult [http://9292.nl](http://9292.nl) for current times.

**Social media and interwebz**

- Twitter: #TIL Ting2017, @tilting2017, #TiU, #TiU_TILT
- online program: [http://easychair.org/smart-program/TIL Ting2017/index.html](http://easychair.org/smart-program/TIL Ting2017/index.html)

**Feedback**

We value your opinions and suggestions and would be most grateful if you could complete the evaluation survey in your conference bag.
Dear participant in TILTing Perspectives 2017, dear colleague, dear friend,

Welcome to our fifth conference. Ten years ago, we started what became our bi-annual TILTing perspectives conference series. The conference was meant to be a platform where various scholars operating at the intersection of regulation, technology, and society meet and exchange ideas. We have had different models for the conference throughout the years. The first one was broad and aimed to cover technologies at large, while later conferences focused on two distinct domains or areas: neurosciences & robotics, technology & regulation, eHealth & surveillance. The idea was to provide more focus, yet bring two distinct types of researchers together, to cross-fertilize between academic disciplines. This approach resulted in relatively small-scale conferences.

For this edition, we have changed the approach radically. The conference does not have a concrete theme, but rather reflects the major research strands within TILT: Privacy & Data Protection, Data Science, Intellectual Property, and Health. Each of these topics represents sizable research clusters within TILT. This means we have the mass to organize tracks within the conference and it also allows our researchers to engage with international peers on their own home turf ;-).

Additionally, we host this year’s edition of PLSC Europe. PLSC Europe is the European version of the highly successful US Privacy Law Scholars Conference, with its unique format of discussing draft papers in depth for 90 minutes, without presentation of the paper by its author(s). PLSC Europe alternates between the University of Amsterdam, the Vrije Universiteit Brussels and Tilburg University.

Finally, we provide a warm welcome and refresher program for our alumni, from both the Master degree program on Law & Technology and our Privacy Course.

Organizing an event in a new format is always a gamble; will authors/speakers submit their work, and will there be an audience? I am pleased that it seems to work out as we envisioned. It turns out some 170 people were involved in producing papers and panels that will be presented at the conference. The result is that we have a packed program with 7 parallel tracks. I look forward to many interesting and inspiring sessions and, of course, to discussions and chats with you.

At this point, I would like to thank everyone who has made this wonderful event possible. The full list of people involved in organizing the conference can be found on the last page, but here I want to especially thank all the speakers and participants in the conference. However big and enthusiastic the organizing committee is, there simply is no conference without speakers and attendees.

I wish you a very inspiring and fruitful conference,

prof. dr. Ronald Leenes
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<th>Time</th>
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<tr>
<td>09:15</td>
<td>Foyer</td>
<td>Opening by Emile Aarts &amp; Ronald Leenes</td>
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<td>09:30</td>
<td>DZ-2</td>
<td>Opening by Sally Wyatt</td>
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<td>10:00</td>
<td>DZ-3</td>
<td>Keynotes: Sean McDonald &amp; Solon Barocas</td>
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<td>DZ-4</td>
<td>The Role of Ethical Data Frameworks in ensuring Algorithmic Accountability (DS1)</td>
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<td>Privacy, Participation, and Public Spaces (P3)</td>
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<td>Panel: Technology, Courts and Beyond (IP2)</td>
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<td>Panel: Data Portability (IP1)</td>
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<td>Panel: Privacy in the 2020s (a conversation about the future of privacy) (P2)</td>
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<td>New IP Developments (IP3)</td>
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<td>DZ-4</td>
<td>Keynotes: Christopher Slobogin &amp; Gary T. Marx</td>
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<td>Conference dinner in Faculty Club</td>
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### 17 May 2017

#### Tracks
- Data Science (DS)
- Privacy (P)
- Intellectual Property (IP)
- Health (H)
- PLSC
- sponsored

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<td>Replacing the role of doctors? Therapeutic Robots and eHealth (H1)</td>
<td>PLSC 6: Intermediary Publishers and European Data Protection: Searching for Balance</td>
<td>PLSC 2: Family privacy in the internet age: Family photographs as a case study</td>
<td>New safeguards of data protection law (DS2)</td>
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<td>Personal Data Protection in mHealth and eHealth: current challenges (H2)</td>
<td>PLSC 1: Unfair Commercial Practices: an alternative approach to privacy protection</td>
<td>PLSC 3: Understanding the notion of risk in the GDPR</td>
<td>Datafication and economic power in developing countries (DS3)</td>
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<td>Privacy and Data Protection by Design (P4)</td>
<td>Robots, Drones, and Privacy (P6)</td>
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### 18 May 2017

#### Regulating a connected world

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<tr>
<th>Tracks</th>
<th>Data Science (DS)</th>
<th>Privacy (P)</th>
<th>Intellectual Property (IP)</th>
<th>Health (H)</th>
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<tr>
<td>09:30</td>
<td>Governance challenges of smart technologies for healthy communities (H3)</td>
<td>DZ-5</td>
<td>PLSC 4: Privacy spaces</td>
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<td>Privacy, Risk, and the GDPR (P1)</td>
<td>DZ-7</td>
<td>Algorithmic futures (DS5)</td>
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<td>PLSC 7: Should fundamental rights to privacy and data protection be a part of EU’s international trade deals? ...</td>
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<td>Perspectives on Cybersecurity (DS6)</td>
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<td>09:45</td>
<td>Group Privacy: New Challenges of Data Technologies (P8)</td>
<td>Privacy and Technology (P10)</td>
<td>Panel – Copyright lawmaking in the EU (IP6)</td>
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<td>Self-Incrimination, Rehabilitation, and the Right to be Forgotten (P9)</td>
<td>Money, Media Consumption, and Video Analytics (P11)</td>
<td>Data Mining and DRM (IP7)</td>
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<td>Panel – Comparative reflections on health policies and health research (H4)</td>
<td>Tracking, personalisation and transparency (P12)</td>
<td>Technology, Courts and Copyright (IP8)</td>
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<td>DZ-6 PLSC 8: Online Price Discrimination and EU Data Privacy Law</td>
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<td>DZ-7 Panel – Managing GDPR on the Ground - Implementing the requirements of the Regulation (IAPP) (P13)</td>
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<td>DZ-8 Data Science Partnerships and Policy (DS7)</td>
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<td>Black Box Panel – Internet Privacy Engineering Network (IPEN) (P14)</td>
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<td>DZ-6 PLSC 9: The Privacy Bell: Re-Thinking Privacy Law and Loss</td>
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<td>DZ-7 PLSC 11: Transparency and Privacy in Smartphone Ecosystems: A Comparative Perspective</td>
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<td>DZ-8 Data Science, Civil Rights and Activism (DS8)</td>
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<td>Black Box Gikii 1: where law and technology meet popular art</td>
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<td>DZ-6 PLSC 10: Can privacy engineering eliminate data subject’s rights under the GDPR?</td>
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<td>DZ-7 PLSC 12: Towards child-specific privacy impact assessments</td>
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<td>DZ-8 Epistemologies of Data: Media, Markets and Research (DS9)</td>
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## Alumni Track

### Friday

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<tr>
<th>Time</th>
<th>Session</th>
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<tr>
<td>09:30</td>
<td>Introduction Alumni Track</td>
<td>Colette Cuijpers</td>
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<td>09:45</td>
<td>The GDPR principles and solutions as a framework for gatekeeping in the Big Data Economy</td>
<td>Paul De Hert</td>
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<td>Big data analytics under the GDPR: what has changed and how to implement the rules in practice</td>
<td>Lokke Moerel</td>
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<td>Coffee break</td>
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<td>11:35</td>
<td>Data Protection Impact Assessment: reflections on how to execute the DPIA in a global environment</td>
<td>Mark Wijnhoven</td>
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<td>Privacy governance in practice: how does it actually work?</td>
<td>Rachel Marbus</td>
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<td>13:05</td>
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<td>14:05</td>
<td>The ins and outs of Data Breach Notification</td>
<td>Simone Fennell</td>
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<td>DPAs at the dawn of the GDPR</td>
<td>Aleksandrina Banusheva</td>
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As the volume of user data being collected and generated keeps growing, an increasing number of decisions regarding its selection, classification and filtering are being automated for all kinds of purposes, from granting loans and recruiting new employees, to ranking search results and translating texts. The creation, design and deployment of machine-learning algorithms are behind this new reality of automated decision-making processes, and are crucially important to provide better and innovative products and services to society. This panel will discuss what transparency and fairness mean in this new world of Machine Learning, and how companies can approach algorithmic accountability and fairness through Ethical Frameworks and Principles.
privacy, Risk, and the GDPR
Chair: Nadezhda Purtova

Human intervention is deemed necessary from the point of view that human dignity or personal autonomy should not be precluded by any technology - while under circumstances human intervention might in its turn disturb the safety or efficiency of a network or system, or harm effective protection of (fundamental) rights (of others). The objective of this panel will be among others to contribute to the discussion of correct interpretation of article 22 of the GDPR (and other EU-legislation) and of article 8 (1) of Convention 108, to develop a clear and robust stance with regard to situations (criteria?) the requirement of human intervention has to be applied and to suggest tools to make or to maintain the requirement of human intervention in automated decision-making accurate.

Privacy 2: Panel – Privacy in the 2020s (a conversation about the future of privacy)
Chair: Sander Flight
Simon Hania, David Erdos, Norberto Andrade, Gloria Gonzalez Fuster, Eleni Kosta and Sander Flight

In this roundtable discussion, panelists will engage with a number of questions about the future of privacy and its connections to technological development, including what privacy (and privacy-related regulation) might look like over the coming decade, and how technology and privacy ought (or ought not) to be regulated to anticipate likely developments in technological development in the near- to mid-term future. Panelists will present their insights into the direction in which technology is being developed and how this (possible) trajectory raises interesting and/or problematic questions of privacy and data protection and will discuss whether their vision of the near-term future requires regulation now, or at least in advance of new technologies emerging in the marketplace, and (if so) what they think that regulation should look like (or what considerations need to be accounted for).
Regulating a connected world

Dante room DZ–4

11:50 IP 2: Panel – Technology, Courts and Beyond
Chair: Kees Stuurman

11:50 Website blocking in copyright cases: Russia’s experience
Ruslan Nurullaev
This talk will explore the experiences regarding the copyright website blocking in Russia, providing reflections on the framework and practice.

12:20 Copyright, Technology and the CJEU: An empirical study
Tito Rendas
The purpose of the contribution will be to rationally reconstruct the CJEU’s approach to new technology-enabled uses of copyrighted works, thereby making an essential and unprecedented contribution to copyright scholarship: to enhance certainty qua predictability within this corpus of case law. For this reason the relevant cases will be analysed through a qualitative coding system, in order to pursue two fundamental tasks: i) to identify the situation-types in which the CJEU renders emerging technological uses of copyrighted works infringing and non-infringing, and, relatedly, ii) to discern the factors that are motivating the CJEU’s decisions on these cases.

12:50 Intellectual property, human rights and indigenous peoples’ traditional cultural heritage in a connected world: legal diversity and interconnectedness
Kelly Breemen
Increasing globalisation and growing interest in the heritage of indigenous peoples, such as their traditional knowledge (TK) and traditional cultural expressions (TCEs), has led to concerns and discussions over their protection. This paper aims to bring together a conceptual and legal diversity approach to analyse TCE protection in a connected world and argues that TCE protection is a multi-dimensional issue and requires a likewise approach. Identifying shared central values can give direction to this approach.

13:20 Lunch Break

14:20 IP 3: New IP Developments
Chair: Kees Stuurman

14:20 The Effect of IPR on Disruptive Innovations in Wireless Communications
Dmitrii Trubnikov
In economics the optimal design of the institution of intellectual property is often considered as a proper balance between provision of incentives for innovations and resulting monopoly prices and deadweight losses. In my research I analyse the evolution of wireless technology and argue that the institution of intellectual property provides opportunities for the incumbents to protect the established order even from disruptive threats that come from the outside of the mainstream part of the industry. As a result, we observe that the industry becomes more concentrated and, moreover, it expresses in different layers of the industry.

14:40 Copyright’s view on libraries in a connected world
Vicky Breemen
A library is a library? The answer actually depends on the perspective, such as common understanding, library and information sciences (LIS), or copyright law. Against the background of European copyright reform, this paper aims to critically assess to what extent copyright’s view on libraries either reflects the concept’s evolvement, or sticks to a traditional understanding.

Pavel Koukal
In 2015 the European Commission presented the first part of the Digital Single Market package which contained i.a. „Digital Goods Directive Proposal“. Although it will not have direct impact on copyright laws and other IP laws, it will strongly influence the contractual relations between the „digital goods supplier“, and the “digital goods consumer” (user). Therefore, I will try to answer these main questions: 1) To what extent can EU law regulate intangible assets in the same way as tangible goods? 2) When focusing on the use of the software, in which aspects will the Digital Goods Directive affect the wording of the EULA in EU countries? 3) What will be the relations between the Portability Regulation and national laws of the EU Member states after the transposition of the Digital Goods Directive, especially when we concentrate on duties of the digital goods supplier concerning the accessibility and functionality of the digital content? The author will try to defend the thesis, that it makes little sense to regulate the portability issues at the level of the EU regulation and at the same time to adopt directive which governs the same issues.
Dante room DZ–5

11:50   **Health 1: Replacing the role of doctors? Therapeutic Robots and eHealth**
Chair: Silvia De Conca

11:50   **Robot Doctors and Algorithm Therapists – The Limits of Automated Decision-making in Healthcare**
Sebastian J. Golla

This paper examines autonomous assistant systems in healthcare, questioning their decision-making capacity from a legal perspective: To what extent is it legal that autonomous assistant systems replace the decisions of doctors and therapists? It discusses how the new technologies affect the right not to be subject to automated decisions regulated in Art. 22 General Data Protection Regulation and examine whether the technologies are compatible with the duties of practitioners as regulated in Medical Associations’ codes of conduct.

12:00  **What are the Legal Aspects in the Use of Social Robots in Therapeutic Contexts?**
Eduard Fosch Villaronga and Jordi Albo-Canals

Socially Assistive Robots (SAR) raise concerns because they work on a different human-robot interaction basis than drones or autonomous vehicles. Unleashing the full potential of these technologies, while protecting the interests of users requires establishing an appropriate framework. This article provides this legal dimension by identifying risk scenarios that could challenge the rights of the users and creating the basis for a future framework on the use of service robots in research.

12:50   **Expert systems and medical malpractice: reframing the notion of negligence**
Andrea Bertolini

Expert systems promise to radically change the way medical consulting is performed. Medical doctors are supposed to stay in charge and hence be liable for negative consequences suffered by the patient. This paper first describes medical expert systems. Next it explores liability rules (negligence, product liability) in this context in different jurisdictions. Then it will focus on the knowledge level required to assess potential harm by the ES. Finally alternative solutions are explored.

13:20 - 14:20 Lunch Break

14:00   **Health 2: Personal Data Protection in mHealth and eHealth: current challenges**
Chair: Samantha Adams

14:20   **Mobile health apps, privacy and autonomy: An empirical, legal, and ethical analysis**
Marijn Sax, Frederik Zuiderveen Borgesius, Nadine Bol and Natali Helberger

In this paper, we examine privacy and autonomy in relation to mobile health apps, explain why these concepts are normatively important, and examine to what extent the General Data Protection Regulation (GDPR) and consumer protection law can foster these values. We develop a taxonomy of different facets of autonomy and privacy based on empirical findings from a survey on users concerns regarding mobile health apps, and an ethical investigation into the concept of autonomy in the health context.

14:50   **A FAIR Data architecture for data protection of m-Health and e-Health solutions in East Africa**
Mirjam van Reisen, Erik Schultes and Barend Mons

This paper examines the relevance of m-health and e-health for development of healthcare in the East African region, the challenges of such development from the perspective of personal data protection and control, and the architecture of a FAIR Data Open Science Cloud. It assesses the adequacy of this architecture as a basis for protecting personal data while still providing a foundation for expanding e-health and m-health applications and the potential of applying the Open Science Cloud in an East African context.

15:20   **Bringing a child’s home to the Hospital. The use of Virtual Reality in a hospital environment**
Frank Rutgers

This paper discusses use of virtual reality (VR) systems in hospital settings, using the case of a Dutch hospital that is currently experimenting with the use of VR-systems in pediatric care. One impact of bringing a patient’s home to the hospital is that the hospital is also brought into the patient’s home. I first examine the privacy and data protection issues related to conflation of spaces, then elaborate the possible implications of using VR for the patient’s family, doctors, and other patients.
11:50  Privacy 3: Privacy, Participation, and Public Spaces
Chair: Sascha van Schendel

Mobile Phones as Surveillance Devices: Finding a Balance between Privacy and Protection
Gregor Urbas and Anya Aidman

Mobile phones can be used to record conversations or film events covertly; they may constitute surveillance devices. Increasingly, courts are dealing with evidence of privately recorded conversations, having to rule on the legality and admissibility of covert mobile phone recordings. Surveillance devices legislation enacted to regulate law enforcement investigations with strict warrant requirements does not adequately deal with covert recording by private citizens. The balance that has to be struck between privacy and the protection of lawful interests, including prevention of victimisation, requires different considerations from the policing context. This presentation reviews Australian laws and recent cases on surveillance devices, suggesting reforms for a comprehensive legislative framework.

12:20  I’ll take a picture if you scare me!
How emerging mobile personal safety technologies and fear are restructuring privacy negotiations in public spaces
Gerard Jan Ritsema van Eck

This contribution investigates how mobile computing and communication technologies are intervening in the processes by which we negotiate privacy in public spaces. The social nature of privacy in public makes Lefebvre theoretical framework developed in ‘The Production of Space’ highly suitable for examining the changes brought about by emerging personal safety technologies, which empower their users in privacy negotiations, reshape how we can use, think about, and experience public places. Lefebvre’s framework also shows that this empowerment lowers privacy expectations and leads to a hollowed-out right to privacy in public: you can remain private, unless I fear you and stream your picture to the police.

12:50  Watching our neighbours: The negotiation of privacy in neighbourhood watch messaging groups
Anouk Mols, Jason Pridmore and Daniel Trottier

Neighborhood watch groups monitoring and patrolling neighborhoods are becoming popular in the Netherlands. This contribution provides a multidimensional understanding of the personal consequences of neighborhood watch messaging groups and users’ practices and experiences and their relation to concerns about data, surveillance & privacy. Users struggle to come to terms with the home as a private space alongside an interconnected online neighborhood. This paper prioritises a user-oriented account of the relationship between neighborhood safety, privacy and intrapersonal surveillance within in a relatively new communication phenomenon.

13:20  Lunch Break

14:20  PLSC 1: Unfair Commercial Practices: an alternative approach to privacy protection
Nico van Eijk, Chris Hoofnagle and Emilie Kannekens
Discussants: Paul de Hert and Stefano Leucci

We will first set forth how the US addresses privacy issues through application of the FTC’s general power to prevent unfair and deceptive trade practices. Developed as a general tool to police business behavior, we explain how the FTC’s authorities are applied in the privacy field with two examples. Thereafter, the European framework of unfair commercial practices as set forth in the Unfair Commercial Practices Directive will be discussed. The aim of this contribution is to give a first view of an alternative approach for privacy protection in the EU by an US example and to show that European rules regarding unfair commercial practices can be can be applied in a manner comparable to the US.
Sharing on Children's Privacy, considering the potential legal solutions in American law. This paper seeks to further develop the discussion started by Steinberg.

Lunch Break

PLSC 3: Understanding the notion of risk in the GDPR

Raphael Gellert
Discussants: Arnold Roosendaal and Magnus Westerlund

The topic of the risk-based approach to data protection has stirred quite some controversy. More in particular, its main criticism argues that it goes directly counter the fundamental right nature of the right to personal data protection and the “rights-based approach” it vehicls, not least because it would offer an uneven level of protection based upon the harms suffered by data subjects. The overall goal of this contribution is to explore the meaning of risk within the GDPR. It will proceed in two steps.

Dante room DZ–8

Data Science 3: Panel – New safeguards of data protection law

Chair: Paul De Hert
Raphael Gellert, Rocco Bellanova, Maša Galic, Joris Van Hoboken and Paul De Hert

To achieve its goals of fair, lawful and transparent processing of personal data, EU data protection law has traditionally relied upon a number of mechanisms, instruments, aka safeguards such as consent, data minimization, or purpose limitation. However, it seems that big data analytics and its associated new business models have called into question the effectiveness of the safeguards to protect data subjects. New safeguards have been proposed, and some have been enshrined in the GDPR. This panel investigate the promises of these new safeguards bear, how they operate in practice, and what can be expected from them, related to the existing safeguards.

14:20 Data Science 4: Datafication and economic power in developing countries

Chair: Linnet Taylor

Datafication and economic power in developing countries

Silvia Masiero

The idea of datafication, intended as rendering many non-quantified processes into data, has become ubiquitous in business intelligence. In this session, the role of datafication in low- and middle-income country markets will be discussed by three academic researchers with expertise in the field. Different geographic foci of research, as well as diverse theoretical perspectives, will lead us to rediscuss the existing orthodoxy on the effect of datafication on economic power, and propose alternative explanations to it. The session will aim at mapping existing knowledge on this timely theme and build cross-disciplinary synergies around it.

14:20 Regulating land tenure = Regulating data flows? A discussion of innovative tools for land administration

Christine Richter and Monica Lengoiboni

The aim for this presentation is to present an overview of innovative land tool initiatives outlining the actors and technologies involved, and their aims and rationales. We will also elaborate on questions that arise from these initiatives related to sustainability in recording land data and future accountabilities pertaining to these records, transparency of the data flows and uses, and the emergence of (new) data categorizations that capture and influence the multi-faceted land-rights-person relationships.

The adoption of drones within data-farm realities in Brazil: risks and opportunities for regulation

Ana Paula Camelo and Alexandre Pacheco Da Silva

This contribution addresses key opportunities and challenges related to the adoption of drones for agriculture purposes in Brazil. Much emphasis has been given to the fact that Brazil has been known as a relevant “drone actor” for farm and land management, and technological advances expand the possibilities of the use of unmanned aircraft in agriculture. While great effort has been dedicated to the discussion and regulation for certification and authorization to commercially fly drones, the country still lacks a regulatory framework specifically focused on the collection, storage and processing of personal data. This paper looks at data ownership and personal data regulation.

Lunch Break

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A key ingredient of EU reform of data protection rules is privacy by design. However, a growing literature on the social dimensions of privacy is making clear that privacy is a far richer notion than is often implied in computer science research. We will explore this with reference to conceptual tools such as Helen Nissenbaum’s theory of Contextual Integrity and the notion of “networked privacy”, to understand how these could extend and improve the application of privacy by design.

When Internet of Things (IoT) devices start becoming a reality, we might enter a society in which we interact with devices in different ways than merely on a screen-based level, but almost all legal scholarship regarding privacy and privacy-by-design is based on the idea that we interact with our smart devices on a rational-text-based manner. I will provide a theoretical analysis based on a history of interaction design and Privacy by Design literature, and a research line on how to research PbDBtS.

Data Protection by Design and Data Protection by Default are regularly endorsed by European policy-makers, but have found limited practical applications. Such implementation is complex because of the uncertainty over the legal meaning of the principles involved. We will translate legal obligations into enforceable prerogatives according to Article 25 of the GDPR, and explain the relation of DPbD with other concepts essential to the EU Data Protection Framework and Privacy Enhancing Technologies. We will claim that, ultimately, the entire Regulation is a meta-privacy-by-design system.

In this presentation, I will argue that, while informatisation and digitisation may be considered to bring about more ‘connected’ health care systems, the discourses and practices associated with increased emphasis on information and self-management reflected in such systems may actually be contributing to processes of disconnection and an increasing marginalisation of care. I will illustrate this with examples from my own e-health research over 15 years, before exploring some of theoretical tools we have at our disposal to begin to set a new agenda that prioritises care in the increasingly ‘connected’ world of digital health.
What does data protection law contribute to the protection of patients in research?

Irene Schlünder (TMF)

The GDPR sticks to the concept of control of the individual over his/her personal data by keeping data secret. But is this still realistic before the background of ever enhanced techniques of re-identifying, tracking and hacking as well as of the abundance of available information in the world wide web? Are data protection measures even mere red tape without great effect for the protected individuals? What would the alternative be or what is needed to achieve fairness for patients in the use of their data?

17:10  Microsoft Keynote

Chair: Ronald Leenes

A principled regime to define the confines of law enforcement access to data in the cloud

John E. Frank (Vice President EU Government Affairs Microsoft Corporation)

17:25  IAPP Best Privacy Paper award

Chair: Trevor Hughes

Dante room DZ–3

09:30  Privacy 6: Robots, Drones, and Privacy

Chair: Maurice Schellekens

09:30  Drones and robotic surveillance

Giovanni Battista Gallus

The deployment of drones for surveillance purposes is already a reality, but poses severe threats to fundamental rights and freedoms. Swarms of drones, with real-time communication channels between them and external parties, trigger yet higher data protection risks (WP29). How can data protection principles be put in practice in the context of autonomous devices? How can we embed such regulations into the code governing drone behavior? Can drone swarms be taught to respect the key principles of data protection?

10:00  Behind closed doors. How personal intelligent robots influence the way we see, and protect, our private sphere.

Silvia De Conca

The paper focuses on the legal implications of the presence of Intelligent Personal Robots in the “sacred precinct” of our private sphere: the home. This work identifies three main influences exerted by Intelligent Personal Robots on the traditional meaning of private sphere, and analyses how they shift the distinction between the private and public spheres creating new, aggregated layers of privacy. I describe the implications of the presence of IPRs in the modalities of sharing for their users, the role of the household environment as place of protection and expression of the private sphere, and for the individual construction of privacy and protection.

11:00  Coffee Break

12:50  Lunch Break

13:50  Privacy 7: Panel – Covert Policing in the Digital Age

Discussant: Bert-Jaap Koops
Gregor Urbas, Peter Grabosky and David Wall

Covert policing has adapted to the digital age, taking advantage of the anonymity and potential for identity manipulation associated with the online environment. The investigation of child sex predators has led police to use “sting operations” by posing as children using chat rooms and other social media, and some non-government
organisations have taken the techniques further, using avatar-chatbots posing as children. This panel presentation reviews the development of covert policing, its recent online manifestations, and the legal and ethical acceptability of covert online investigations.

Dante room DZ–4

09:30 IP 4: Collective Management of Copyright
Chair: Inge Graef

9:30 The calculation of private copying levies – How much harm do rightholders suffer from private copying?
Mina Kianfar
This talk explores the private levy system that compensates authors for private reproductions of their works. It aims to compare the criteria collective management organizations (CMOs) use for the setting of tariffs, also in light of the Collective Management Directive, with the requirements formulated by the CJEU case law following Padawan case. It will try to answer the questions whether tariffs provide for a fair compensation that corresponds with the amount of harm rightholders suffer due to private copying?

10:00 New EU Developments in Collective Management of Copyright
Sylvie Nerisson
Collective management of copyright plays a role at each crossroad of copyright’s reforms. EU intervenes in this field today more than ever (Directive 2014/26/EU) and the CJEU is also increasingly asked to issue opinions (Reprobel C-572/13; Soulier C-301/15). Last but not least, the EU Commission’s new digital copyright package aims to introduce several changes. Collective management of copyright in Europe therefore asks many topical questions that interest both national and European judges, stakeholders and lawmakers. The talk will explore them.

10:30 Reflections on the scope of mandate of European CMOs
Lucie Guibault
This talk will provide brief reflections on the recent developments in the area of collective management of copyright. In particular, it will critically explore the background and consequences of Soulier case and examine the ramifications of the Reprobel case for the newly proposed exceptions and limitations, such as for visually impaired persons and data-mining.

11:00 Coffee Break

12:50 Lunch Break

13:50 IP 5: Digital Copyright
Chair: Martin Husovec

13:50 Uncovering the invisible: studying algorithmic online copyright enforcement
Sharon Bar-Ziv and Niva Elkin-Koren
The Notice & Takedown (N&TD) regime, facilitated by the Digital Millennium Copyright Act (DMCA) has turned online intermediaries into a copyright enforcement arm. Nowadays, the N&TD regime is mostly implemented by algorithms, which are embedded in the architecture of online intermediaries. In this paper, the authors study a unique database of about 10,000 removal requests sent to Google to explore the nature of algorithmic copyright enforcement actions.

14:20 Black Box Tinkering: Beyond Disclosure in Algorithmic Enforcement
Maayan Perel and Niva Elkin-Koren
The pervasive growth of algorithmic enforcement magnifies current debates regarding the virtues of transparency. Not only does using codes to conduct robust online enforcement amplify the settled problem of magnitude often associated with present-day disclosures, it imposes additional practical difficulties on relying on transparency as an adequate check for algorithmic enforcement. In this Essay we explore the virtues of black box tinkering methodology as means of generating accountability in algorithmic systems of online enforcement.

14:50 Exhaustion of Copyright in Digital Objects
Dan Burk
Copyright law has long provided for purchasers of copyrighted works with a legal possibility to dispose of their lawfully purchased copies by resale under the doctrine known as “exhaustion” or “first sale”. As demonstrated by number of decisions both in the US and the EU, the digitization challenges the boundaries of the doctrine. This paper explores these developments with the goal to offer some sensible policy framework for considering exhaustion of rights in digital objects.
09:30 Health 3: Governance challenges of smart technologies for healthy communities
Chair: Mariana Zuleta Ferrari

09:30 Transcending the Promises and Fears: Governmentality as a new angle in research on wearable-technologies
Elisa Lievevrouw
Self-tracking technologies are often put forward as the great solution to problems in our healthcare system. However, there has been a remarkable growth in the number of critical social science analyses, whereby current research on wearables risks becoming polarized between techno-optimists on the one hand, and critical social research on the other. This paper proposes using Foucault's notion of Governmentality as an alternative angle for research on wearables. ‘Governmentality’ enables examining both how wearables are used in practice and how they are embedded in a broader network of institutions, producers and users.

10:00 The interaction among health promotion, soft technology, urban planning and the legal system for the building of healthy cities
Ana Maria Sperandio
Urban and community gardens may contribute, in the long run, to strategies for poverty reduction, increasing individual income and access to healthy food, fostering social inclusion and consequently improving health. Such gardens meet 5 of the 17 Millennium Development goals and represent a multidisciplinary opportunity to meet local needs, while respecting rural tradition. This paper describes the implementation of urban community gardens in a Brazilian county, focusing on the right to health and the development of healthy cities.

10:30 Democratic governance of public health challenges via health data sharing: an opportunity for the citizens?
Anna Berti Suman
I investigate how the increasing connectivity of our living environments and bodies reshapes the concept of democratic governance. A daring comparison can be made between the smart city concept revolutionizing city governance and eHealth and mHealth altering treatment of illnesses. These two processes are interrelated, given that one of the smart city’s pillars is “smart health care”. This study explores how data streams become tools for taking decisions, in combination with an analysis of the traditional right to democratic participation contextualized in the smart city.

11:00 Coffee Break

12:50 Lunch Break

13:50 Data Science 4: Panel – Price discrimination
Chair: Frederik Zuiderveen Borgesius
Frederik Zuiderveen Borgesius, Joost Poort, Solon Barocas, Estelle Massé and Christian D’cunha
Online shops could offer each website customer a different price. Such personalised pricing can lead to advanced forms of price discrimination based on individual characteristics of consumers. An online shop can recognise customers, for instance through cookies, and categorise them as price-sensitive or price-insensitive. The shop can charge (presumed) price-insensitive people higher prices. This panel discusses such online price discrimination practices from different angles, representing the perspectives of law, economics, ethics, machine learning, regulation and digital civil rights.

11:00 Coffee Break

12:50 Lunch Break
PLSC 5: “We Only Spy on Foreigners”: The Myth of a Universal Right to Privacy and the Practice of Foreign Mass Surveillance

Asaf Lubin
Discussants: Nicholas Gross and Nico van Eijk

The digital age brought with it a new “Pax Technica” where government and industry are “tightly bound” in technological and security arrangements where “our” right to privacy and “theirs” is routinely discerned. In this piece I justify, in a limited sense, certain legal differentiations in treatment between domestic and foreign surveillance. = (1) disparity in the political-jurisdictional reach of state agencies; (2) disparity in the technological reach of state agencies; and (3) disparity in harms from potential abuse of power.

PLSC 6: Intermediary Publishers and European Data Protection: Searching for Balance?

David Erdos
Discussants: Frederik Zuiderveen Borgesius and Bert-Jaap Koops

Online intermediary publishers are not responsible for the original publication of information but are almost always practically critical for freedom of expression online and the legal harms linked to publication. Many of data protection’s default provisions – notably the presumption of effective ex ante control and onerous substantive conditions for lawful processing, especially of ‘sensitive’ data – conflict with freedom of expression. The new freedom of expression clause in the GDPR has a key role to play in reconciling these competing rights.

PLSC 7: Should fundamental rights to privacy and data protection be a part of EU’s international trade deals?

Dynamic between fundamental rights protecting personal data and international trade law

Svetlana Yakovleva

Discussants: Gloria Gonzalez Fuster and Eleni Kosta

This contribution argues that privacy and data protection should be a part of international trade deals of the European Union: economic regulation, which calls for a lower optimal level of protection and a less restrictive model, limiting the regulatory autonomy of the parties to international trade agreements to protect privacy and personal data as fundamental rights. This is unlikely to prevent the subordination of fundamental rights to liberalisation of trade in the context of trade dispute settlement.

Dante room DZ-8

09:30 Data Science 5: Algorithmic futures
Chair: Linnet Taylor

09:30 Making decisions fair and square? On regulating algorithms.
Francien Dechesne

These are times of uncertainty and complexity where people are looking for ways to regain epistemic control and trust in technology. I propose an integral typology of the different types of bias and unfairness associated with (semi-)automated decision making, and conceptualize a data-driven decision making model that clarifies these terms. I will reflect on what it would mean to regulate algorithms, and to which extent it may help mitigating unfairness from algorithm-based decision making.

10:00 The canary in the data mine - the technological, legal, ethical and organizational infrastructures of research into algorithmic agents
Balázs Bodó, Frederik Zuiderveen Borgesius, Kristina Irion, Judith Müller, Natali Helberger and Claes De Vreese

We will describe one possible approach to researching the individual and societal effects of algorithmic recommenders, and discuss the ethical and legal issues of tracking the trackers, as well as the costs and trade-offs involved. We will argue that besides shedding light on how users interact with algorithmic agents, we also need to be able to understand how different methods of monitoring in algorithmically controlled digital environments compare to each other in terms of costs and benefits.
recommenders, and discuss the ethical and legal issues of tracking the trackers, as well as the costs and trade-offs involved. We will argue that besides shedding light on how users interact with algorithmic agents, we also need to be able to understand how different methods of monitoring in algorithmically controlled digital environments compare to each other in terms of costs and benefits.

**10:20** The role of citizen in distributing responsibility around Smart City technologies

*Merel Noorman*

Stakeholders have argued that Smart Cities can only fully harness their potential through the voluntary active cooperation of citizens. But few have the leverage or the technical, organizational and cultural knowledge and know-how to actively participate in and affect decision-making about how their data may be processed or used. This paper asks whether and how citizens can gain more leverage in negotiations about the distribution of responsibility around Smart City technologies and what that means for the accountability of data technologies.

**10:40** The “Rule of Law” implications of data-driven decision-making: A techno-regulatory perspective

*Emre Bayamlıoglu and Ronald Leenes*

Automated decision-making shares a common aim with law: namely control and steering of institutional practices and individual behaviour. We ask how to approach and evaluate biases inherent in ML, and refine certain “rule of law” implications derived from our analysis. Starting from the notion of autonomy, we ask whether, and to what extent a theorisation of data-driven DM from a “systemic” perspective, with reference to findings from systems theory and complexity studies, could contribute to this analysis.

**11:00** Coffee Break

**12:50** Lunch Break

**13:50** Data Science 6: Perspectives on Cybersecurity

*Chair: Karine E Silva*

**13:50** Cybersecurity of small and medium business networks in the world of the internet of things

*Frantisek Kasl*

Self-regulation by commercial internet networks including components of the internet of things may provide a flexible landscape for creation of general industrial standards and best practices for specifically designed and integrated systems. However, small and medium business solutions are largely sets of connected parts, rather than integrated structures, which present widespread cybersecurity issues. I argue that regulators should consider SME capacity to comply with general rules for network security and define factors to improve regulatory settings for SME networks.

**14:00** Assessing Information Security Regulations for Domestic and Industrial Cyber-Physical Systems

*Lachlan Urquhart and Derek McAuley*

Security incidents facilitated by networked devices are occurring more frequently, including denial of service attacks and industrial control system (ICS) hacks in factories and power plants. We will unpack where emerging regulatory responsibilities on information security lie, and analyse how engineering solutions can emerge that reflect the regulatory landscape, and the interests of different stakeholders, particularly users. We will take into account the new EU Network and Information Security (NIS) Directive 2016, the GDPR, the new UK Cyber Security Strategy and the wider EU Cybersecurity Agenda.
Dante room DZ-2

9:45  Privacy 8: Group Privacy – New Challenges of Data Technologies  
Chair: Bart van der Sloot
This session follows on from the publication of the book Group Privacy: New Challenges of Data Technologies. It will incorporate a panel discussion by authors and editors of the book, then a general discussion of how to carry this research forward in terms of further defining the problem, determining how best to frame it (is it a privacy problem or something broader?) and understanding the best routes to solving related practical juridical problems. The session is aimed at a multidisciplinary audience.

11:15  Coffee Break

11:35  Privacy 9: Self-Incrimination, Rehabilitation, and the Right to be Forgotten  
Chair: Ivan Skorvanek

11:35  Self-incrimination and authentication: on something you are in knowledge-based world  
Jakub Harašta
Encryption is both a crucial part of protecting individual privacy and an increasing threat to the efficacy of law enforcement agencies. The proposed paper aims to translate the discussion to Europe and answer the following questions: 1) What is the exact scope of protection granted self-incrimination laws with regard to encryption? 2) Is this scope different with regard to various authentication methods in use, such as passwords compared to biometrics?

12:05  Digital Expungement  
Eldar Haber
Digital technology might lead to the extinction of criminal rehabilitation. Due to big data practices, criminal history records expunged by the state remain widely available through commercial vendors (data brokers). This paper proposes a graduated approach towards criminal history records, which would be narrowly tailored to serve the interests of rehabilitation-by-expungement. First, making non-conviction criminal history records private, and second, the state differentiating between offenses that could be eligible for expungement (which remain private) and those that could not, which become public.

13:05  Lunch Break

14:05  Health 4: Panel – Comparative reflections on health policies and health research  
Chair: Giulia Schneider

14:05  (Ac)counting risks, producing publics: exploring the role of vaccination registries in public health  
Katharina T. Paul
This paper reports on early findings regarding how vaccination data is/not collected and/or shared in Austria and the Netherlands in so-called “vaccination registries”. In doing so, we document the different ways notions of public and private health risk is counted and accounted for, documented, captured, and reproduced. Methodologically, we draw on policy documents, secondary literature, and publicly available visualizations of epidemiological data. Our findings suggest that vaccinations registries first, order state-society relations in particular ways, and, second, reproduce and embody notions of compliance and deviance.

14:30  The Googlization of health research. Challenges and possible ways forward  
Tamar Sharon Schneidleder
As digital data take on an increasingly central role in biomedicine, the health research ecosystem is expanding to include new types of data, research methods and stakeholders. This expansion has opened the way for large consumer tech companies to enter the health research domain in significant ways. This “Googlization of health research” may advance biomedical research, but also raises new challenges. Drawing on critical data studies and bioethics, this talk maps out the main concerns in the Googlization of health research and outlines some ways of addressing them.

14:55  Healthcare information systems as critical infrastructure: Toward a research agenda for cybersecurity in healthcare  
Samantha Adams
Many health institution information systems are fraught with vulnerabilities, a problem that is exacerbated by the increasing convergence between these systems and consumer health technologies. Whether (and how well) institutions are equipped to deal with system breakdowns – including both internal glitches and targeted external attacks – remains unclear. This talk presents a research agenda for cybersecurity of healthcare information systems, exploring impacts on the governance of critical IT systems.
infrastructures, mitigation of threats, and related sociotechnical challenges to protecting large-scale HIT systems.

15:20 Open debate

15:35 Drinks

Dante room DZ-3

9:45 Privacy 10: Privacy and Technology
Chair: Jason Pridmore

9:45 Governing Data Flows in the Logical Layer of Internet Governance: The case of the Next Generation Registration Directory Services to replace WHOIS
Stefania Milan

This paper focuses on the logical layer of the internet harbored by the Internet Corporation for Assigned Names and Numbers (ICANN). It explores the privacy and surveillance implications of data flows as they follow from names and numbering, looking in particular at the ongoing Policy Development Process on the Next Generation Registration Directory Service (RDS), which aims at a new model able to simultaneously "address accuracy, privacy, and access issues". The paper tracks the current controversies around RDS, and proposes three scenarios for its future.

10:15 Smart toys, privacy and trust
Esther Keymolen and Simone Van Der Hof

Almost all children in the Western world are online—and the internet of things is also extending to smart toys: WIFI-enabled toys that connect to the internet and interactively engage with children while they are playing, with implications for privacy and trust on the part of children and parents. This paper will provide a philosophical and legal exploration of how the smartification of children’s toys impacts the concept of trust by using as conceptual lenses Context, Construction, Curation and Codification.

10:45 Collecting data through public Wi-Fi: big data, privacy and data protection in smart cities
Alexandre Pacheco Da Silva and Victor Doering Xavier Da Silveira

Smart city policymakers and scholars emphasise the goal of providing public broadband coverage, but say little of the data that may be collected via public Wi-Fi and its potential for enhancing the provision of public services. How may government employ big data in enhancing public services in smart cities in line with data protection? This essay will discuss the potential of collecting big data through public Wi-Fi policies in São Paulo, as well as the challenges related to data protection and users’ privacy.

11:15 Coffee Break

11:35 Privacy 11: Money, Media Consumption, and Video Analytics
Chair: Tjerk Timan

11:35 Privacy in the Era of Binge-Watching Videos Online
Nicholas Gross

Streaming TV and movies online has become an Internet phenomenon. Yet consumers pay more than just cash for online streaming in the form of sensitive personal information, such as their video preferences, social media activity, and geolocation. This paper analyses the Video Privacy Protection Act (VPPA), exploring its legislative history, the scant literature on it, and the few U.S. federal cases to address it in relation to digital streaming services. It also examines how the VPPA fits within the sectoral approach to privacy in the U.S.

12:05 Electronic payments and privacy: in need of a digital right to cash?
Niels Vandezande

Electronic payments have undeniable benefits, but also tend to leave trails of personal information. There are, for instance, several examples of banks selling this data to advertisers to provide advertisements tailored to these users’ spending habits. As a reaction, many are trying to defend their ‘right to use cash’. This paper will analyze the scope of this so-called ‘right to cash’, and assess whether it could be translated to the digital realm.

13:05 Lunch Break

14:05 Privacy 12: Tracking, personalisation and transparency
Chair: Maša Galic

14:05 Cross Device Tracking: Measurement and Disclosures
Justin Brookman, Phoebe Rouge, Aaron Alva and Tina Yeung

Internet advertising and analytics technology companies are increasingly trying to find ways to link behavior across
various devices to provide a more complete view into a consumer’s behavior for a range of purposes, including ad targeting, research, and conversion attribution. We designed a multidisciplinary study to assess what information about cross-device tracking is observable from the perspective of the end user. Our paper demonstrates how data that is routinely collected and shared online could be used by online third parties to track consumers across devices.

14:35  Piercing the filter bubble bubble – factors and conditions of acceptance of news personalization
Balázs Bodó, Judith Müller and Natali Helberger

Personalization has been the subject of intense scrutiny ever since Eli Pariser’s “Filter bubble”. Personalizing algorithms are locking people in interest-based filter bubbles, resulting in adverse effects, including the reduction of diversity of information and opinions people are exposed to, the formation of echo chambers, the subsequent polarization and fragmentation of the public discourse, and the disengagement of certain social groups. These claims found their own echo chambers and led to an alarmist discourse on ‘filter bubbles’ in general, and the roles and responsibilities of online information intermediaries, such as google or Facebook in particular. In this paper we revisit and subject some of the assumptions of the original filter bubble argument to a systematic, evidence based scrutiny.

15:05  Open Governments and Transparency in an Age of Data Analytics
Teresa Scassa

Geofeedia made the news when it was reported that it provided police services in North America with data analytics based upon georeferenced social media information (Twitter, Fb). This information is treated as “public” in the United States. This example raises issues around the transparency of state surveillance and presents challenges to the ‘open government’ movement and access to information legislation. This paper examines the relationship between ‘open government’ principles and the growing use by governments of outsourced data and data analytics.

15:35  Drinks
Thinking of copyright works as black boxes. A solution for TDM and machine learning activities

Marco Caspers and Lucie Guibault

As a basic principle of copyright law, ideas are not protected. With the advent of computer technology, the ideas expressed in digital works are not easily ascertainable without making of a copyright relevant reproductions. This problem particularly arises in the context of text and data mining (TDM) and machine learning activities. TDM can be seen as ‘reading’ by a machine. In this paper, we propose that when machines ‘consume’ a copyright work, that work should be regarded a black box and its use should not fall under the exclusive rights of the author.

13:05 Lunch Break

14:05 IP 8: Technology, Courts and Copyright

Chair: Eleni Kosta

14:05 The Death of ‘No Monitoring Obligations": A Story of Untameable Monsters

Giancarlo Frosio

In this paper, I suggest that we are witnessing the death of “no monitoring obligations,” a well-marked trend in intermediary liability policy. Current Internet policy—especially in Europe—is silently drifting away from a fundamental safeguard for users freedom of expression online, which has been guarding against any “invisible handshake” between rightholders, online intermediaries, and governments. In this respect, this paper would like to contextualize the recent proposed EU reform within the re-emergence of a broader move towards turning online intermediaries into Internet police.


Kunbei Zhang and Aernout Schmidt

Technology has made content sharing between consumers viable since the early 1980s. In the USA, judges have, roughly speaking, two choices in copyright issues: (i) protect as property, (ii) allow as fair-use behavior. The observations of these two choices have been collected into our database of fair-use case law and in turn translated into hypotheses about the evolutionary trajectories in the 1990-2017 period. Particularly, we focus on the relationships between judicial choice and the social environment.

15:35 Drinks

10:15 mMoney, Mobility and Healthcare: Towards a Meta-Theory of System Diversity

Mirjam van Reisen and Francien Dechesne

Understanding technological design and development as a normative activity is particularly pertinent when technologies from the so-called developed world are used for Development. This paper demonstrates the fundamental flaw with the premise that technology can be transferred from one context to another. We explore how System Diversity is the result of different ontologies that determine the use of ICTs. The case of the development of mobile money and use of cross-border remittances for health care demonstrates how deeply ICTs impact rural development settings.

10:45 Data Governance in Healthcare: Investigating data quality dimensions within a big data context

Suraj Juddoo, Carlisle George, Penny Duquenoy and David Windridge

This paper investigates the most important data quality dimensions for big datasets used in the healthcare industry. An inner hermeneutic cycle approach is used to review the literature related to data quality for big health datasets in a systematic way and a list of justified data quality dimensions is provided. These dimensions can potentially be used to inform future big data governance frameworks specifically for the health industry.

9:45 Health 5: Social and economic dimensions of big data in health care

Chair: Katharina T. Paul

9:45 The never ending lifecycle(s) of health data: regulatory challenges of data mining practices

Giulia Schneider

Health data has become a gold mine for a growing field of public and private enterprise. Threats to individuals’ personal data are quantitatively and qualitatively complex. The legal consequences and risks connected to the business of big health data are currently unpredictable. Our analysis acknowledges the unsuitability of two fundamental assumptions of traditional data protection law: that the right to data protection has an individual scope and that the right to data protection is an end in itself.
One difficulty in developing mHealth systems is information security. mHealth systems are vulnerable to numerous security issues related to weaknesses in design and data management. This paper focuses on security requirements in mHealth systems, assets in mHealth systems that need to be protected, threats which need to be protected against, vulnerabilities and weaknesses in mHealth systems, and risks that may occur as a result of threats exploiting vulnerabilities. It also proposes possible countermeasures in order to secure the confidentiality of healthcare data in mHealth systems.

This paper reviews and examines the challenges of preserving user privacy in the context of using mHealth to manage chronic diseases. The paper first discusses mHealth, its importance in managing chronic diseases, and the associated privacy concerns. Secondly, the paper compares existing privacy frameworks applicable to mHealth. Thirdly, the key principles gathered from the frameworks are analysed in the context of their suitability for enabling adequate privacy when using mHealth for managing chronic diseases. Finally, the paper will propose optimal specifications for developing a privacy framework for mHealth in the context of managing chronic diseases.

The paper analyzes mobile health apps developed by the Brazilian government in order to prevent HIV and help HIV people in their treatment from the perspective of data protection, assessing whether their data collection is adequate and if patient’s data are adequately secure, as well as the privacy impact of such policies. The spillover effects of misuse and abuse of the collection and treatment of such data are more significant, hence the sensitivity of this data.

The panel will discuss the issue of non-personal data ownership and the re-use thereof in scientific research, in particular, what we can learn from regulation of existing IP rights when potentially introducing a new right. To what extent can we apply the idea-expression dichotomy? What subject matter test could or should apply? How to design such right in order to promote current and future technologies enabling the re-use of research data and how to distinguish (if at all) ‘public’ research data and industrial data.

Online shops could offer each website customer a different price. Such personalised pricing can lead to advanced forms of price discrimination based on individual characteristics of consumers. An online shop can recognise customers, for instance through cookies, and categorise them as price-sensitive or price-insensitive. The shop can charge (presumed) price-insensitive people higher prices. This panel discusses such online price discrimination practices from different angles, representing the perspectives of law, economics, ethics, machine learning, regulation and digital civil rights.
11:15 Coffee Break

11:35 PLSC 9: The Privacy Bell: Re-Thinking Privacy Law and Loss

Ignacio Cofone and Adriana Robertson
Discussants: Justin Brookman and Clara Marsan-Raventós

The issue of privacy loss is central to privacy law scholarship, yet a clear definition remains lacking. We present a simple model that defines privacy loss in a way that can be applied to policy evaluations. Privacy is defined in view of a subjective standard deviation of a distribution centered around the “true value” of information. The model is discussed using three contemporary issues: Posner’s criticism of privacy as an inefficient increase in asymmetric information, common law privacy tort, and the third party doctrine.

13:05 Lunch Break

14:05 PLSC 10: Can privacy engineering eliminate data subject’s rights under the GDPR?

Achim Klabunde
Discussants: Natali Helberger and Joris Van Hoboken

This paper explores the assumption that the GDPR introduces an incentive for controllers to circumvent their obligations with regard to the rights of the data subjects, by letting them create processing operations designed to allow the controller to demonstrate that they cannot identify individuals according to Article 11. To this end, the concepts of “data protection by design” and “identifiability” and the interaction between Articles 11 and 25 will be explored and a consistent interpretation of the apparently contradictory provisions of the GDPR will be provided as well as some principles for an engineering approach to DPbD.

15:35 Drinks

Dante room DZ-7

9:45 Privacy 13: Panel – Managing GDPR on the Ground – Implementing the requirements of the Regulation (IAPP sponsored)

Chair Peter Hustinx
Trevor Hughes, Sachiko Scheuing, Jeroen Terstegge and Olivier Proust

This panel will commence with an introduction by IAPP president Trevor Hughes, followed by perspectives provided by privacy officers and privacy advisors.

11:15 Coffee Break

11:35 PLSC 11: Transparency and Privacy in Smartphone Eco-systems: A Comparative Perspective

Joris Van Hoboken, Ronan Fahy, Nico van Eijk, Ilaria Liccardi and Daniel Weitzner
Discussants: Ronald Leenes and Bart van der Sloot

This paper addresses the question of how transparency requirements in data privacy law map to the smartphone context, looking at the way in which different regulatory environments for data privacy (EU and US) shape transparency about the collection and use of personal data in dominant smartphone ecosystems (Android and Apple iOS). It looks at the different legal requirements and policy guidance as well as the technical implementations shaping transparency in the respective ecosystems.

13:05 Lunch Break

14:05 PLSC 12: Towards child-specific privacy impact assessments

Milda Macenaite
Discussants: Claire Bessant and Claudia Quelle

The GDPR adopts a risk based approach placing a prominent role on data protection impact assessments (DPIA). General DPIA frameworks are inadequate to fully address the risks to vulnerable data subjects, such as children. This paper argues for a need for a child-specific DPIA framework. It discusses child-specific risks, reviews DPIA methodologies and elaborates a set of child-tailored DPIA criteria that allows the online service providers to more fully understand the child rights impact related to their activities.

15:35 Drinks
9:45  **Data Science 7: Data Science Partnerships and Policy**  
Chair: Silvia de Conca

9:45  **Data sharing mechanisms and privacy challenges in data collaboratives - Delphi study of most important issues**  
Ella Kolkowska, Iryna Susha and Bastiaan van Loenen

In this paper we explore the concept of ‘data collaboratives’ – cross sector partnerships to leverage new sources of digital data for addressing societal problems. Many of these new sources of digital data, such as “data exhaust” from mobile apps, search engines, personal sensors, are collected by companies. The paper identifies and defines the most important privacy challenges that need to be addressed in the context of data collaboratives. It provide guidance on how data can be successfully shared in data collaboratives while respecting data protection interests.

10:15  **Migrant mortality rates along southern EU external borders, 1990-2013**  
Tamara Last, Ignacio Urquijo and Flor Macias Delgado

People have been dying while attempting to cross the external borders of the EU for 3 decades. Mortality rates reported are based on news media-sourced death data and Frontex apprehension data. The newly established Deaths at the Borders Database and a meta-analysis of irregular migration flows across the southern EU external border presents more accurate mortality rates for the period 1990-2013, informing further analysis and discussion.

11:15  **Coffee Break**

11:35  **Data Science 8: Data Science, Civil Rights and Activism**  
Chair: Lorenzo Dalla Corte

11:35  **Data cultures at the grassroots: Alternative epistemologies and the tech**  
Stefania Milan

Big data have brought about a novel, powerful system of knowledge, with its own epistemology and specific ways of framing, packaging, presenting and activating information, fundamentally altering the conditions under which we make sense of the world and act upon it. Novel data countercultures emerge at the fringes of the datafied society, propelled by new forms of civic engagement and political action, "data activism", which is explored here as a producer of counter-expertise and alternative epistemologies, reflecting on how these are articulated in relation to technology and software cultures.

11:55  **The influence of news personalization on the realization of the right to receive information**  
Sarah Eskens, Natali Helberger and Judith Möller

Online news consumers increasingly find news through personalized services matching their personal interests. Much of the legal research in this field focuses on privacy and data protection and filter bubbles. This paper instead focuses on the right to receive information by addressing its import in the context of news, and how news personalization may affect news consumers’ capability to exercise their right to receive information. It replaces the alarmist filter bubble framework with an information rights framework for discussion.

12:15  **From contested to shared responsibility: online platforms and the transformation of publicness**  
Natali Helberger, Thomas Poell and Jo Pierson

Algorithmically mediated online platforms have started to play a vital role in the realization of important public values and policy objectives associated with journalism, civic engagement, policing, health care, and education: freedom of expression, public discourse, consumer protection, and the accessibility to basic public services. This paper develops a conceptual framework for the governance of public role platforms, developing of a concept of cooperative responsibility for the realization of critical public policy objectives, taking into account broadly acknowledged societal values such as privacy, autonomy, equality and diversity.

13:05  **Lunch Break**

14:05  **Data Science 9: Epistemologies of Data: Media, Markets and Research**  
Chair: Frederik Zuiderveen Borgesius

14:05  **The Use of Knowledge and the Role of Free Market Mechanisms in the Era of Big Data**  
Dmitrii Trubnikov

The superiority of the market economy over the centrally planned system has often been explained by the fact that
knowledge and information are distributed between numerous economic actors. Modern technology that brings us the Internet of Things and Big Data openly challenges this assumption; information becomes more and more concentrated by a group of private entities. This paper addresses the problem of power concentration and the ways to avoid or to reduce this concentration in the new economy from a market perspective.

14:35  Trusting the Trust Environment: The Human Rights Glitch in the Sharing Economy Trust Dataset
Gail Maunula
The various sharing economy business models and the platforms use and produce an enormous amount of data provided by trusting users. These data are also used for implicit and explicit discrimination against others. When the data requirements to facilitate trust become the data exposure that facilitates discrimination, the necessity for a new strain of regulatory analysis emerges. This paper discusses the problem and shows how data collected on discrimination in the sharing economy environment could assist the European Commission in its fight against discrimination.

14:55  Turning users into consumers: Why “free” services should be regulated on price discovery
Magnus Westerlund and Joachim Enkvist
Online services are predominantly provided for free, while their providers hardly contribute tax-revenue to the state were their services are consumed. The value of the platform can be considered directly linked to the degree of exploitation of user data, the complete history of a number of data subjects, and a perceived future exploitation value. Determining a value of personal data is of great importance to many stakeholders, for example the data subject, tax authorities, competition authorities, and start-ups.

15:15  Online Reviews as an Alternative to Information Duties in European Consumer Law – A Critical Analysis
Madalena Narciso
The current information paradigm in consumer law – the existence of mandatory information duties in contracts – is seen as ineffective and unable to protect consumers in an increasingly technological society. Online reviews have been suggested as a regulatory alternative. This paper answers the question ‘can online reviews be an alternative to information duties in European consumer contract law?’. It does so by critiquing the information paradigm in consumer law, by characterizing online reviews and by defining online reviews as ‘advice-like information’.

Black Box

09:45  Privacy 14: Panel - Internet Privacy Engineering Network (IPEN)
Chair: Achim Klabunde
Seda Gurses, Jaap Henk Hoepman, Achim Klabunde
IPEN invites participants from different areas such as data protection authorities, academia, open source and business development, and other individuals who are committed to finding engineering solutions to privacy challenges. The objective of the work is to integrate data protection and privacy into all phases of the development process, from the requirements phase to production, as it is most appropriate for the development model and the application environment. The purpose of this IPEN panel is to stir the discussion on privacy engineering, in the light of the General Data Protection Regulation, and present the latest developments in privacy engineering.

11:15  Coffee Break

11:35  Gikii 1

11:35  Ankh-Morporkian Law Review: Legal and Administrative responses to Technological Change
Robbert Coenmans
Ankh-Morpork is Discworld’s largest, and greatest city. It has a rich innovative tradition, mainly due to the presence of the Guild of Alchemists and the Unseen University. More recent introduction of the printing press and clacks system challenged the work of city administrators. This paper examines how the Patrician chooses a self-regulatory approach, coupled with forceful interventions when ethical borders are crossed, as well as when the technology by itself is deemed to be to big of a (societal, health or magical) risk. lessons for Roundworld will be drawn.

11:45  UNMANNED FUTURES
Freyja van den Boom
With the ongoing developments in artificial agency we are experiencing the development of a new agent in society. The impact of having artificial agency (AA) in society is uncertain and difficult to predict. One of the expected side effects is a gap in accountability for the actions of AA. This paper looks at the legal framework and current state of AI and the future with the assumption that AI will develop into AA that work, play and interact with non-artificial agents. Is the legal framework AI/AA proof!?
The Matrix Has You: Indoctrination, from Inception to Donald Trump and Contemporary Populism
Tom Chokrevski
A long-standing assumption in constitutional democracies, reflected in law, is that each individual has inalienable freedom of thought. Recent findings in psychology and behavioral sciences have hollowed out these idealistic assumptions, and neuroscience is finishing the job. The Matrix cs will guide the way, and building on my previous research concerning how religious indoctrination impairs autonomy, I will explore the roles of communication technologies and sophisticated psychological manipulation in contemporary societies and argue we need to rethink law’s assumptions and tackle “dirty mind tricks” and “junk food for thought”.

‘It is known’: power, pornography and the drawbacks of the Dothraki referencing system as an ethical guide for data analytics
Linnet Taylor
This paper interrogates the use of the Dothraki referencing system – the axiomatic statement that certain information ‘is known’ and is therefore both true and useable – by the public sector, and its implications for data ethics and governance. This is done by looking at ‘volunteered data’ empowering otherwise useless sensor data and Googleable refrigerators, showing that these lead to assertions of power over data and its producers, and immunity from the data protection principles of privacy and nondiscrimination that will, over time, prove problematic for public-sector partners in such projects.

VPN citizenship
Fran Meissner
To connect the idea of citizenship with the ability to alter one’s VPN address in spite of one’s physical location is, I propose, an action that can offer participatory possibilities or be understood as a right necessary for certain forms membership (even if the alteration of a VPN tends to be thought about as semi-legal). Considering VPNs as part of the (virtual) built environment this paper asks whether there may be parallels to forms of insurgent citizenship in cities.

Inspector Clouseau at the Olympics: Was the Pink Panther Doped?
Mara Paun
The Pink Panther’s methods in winning the Olympics in 2010 were at least suspicious, given the stringent control WADA has over athletes. As a professional athlete, he has to submit to doping controls in accordance with the World Anti-Doping Code (WADC): whereabouts information, in-and out-of-competition testing, and information that could help determine whether the Pink Panther is male or female. The new WADC has been condemned as violating the privacy and principles of personal data processing in the EU, and issues have arisen for Member States that have to comply with both the WADC and data protection legislation.

‘I know what you did last Summer’ and other MakeBelieve: techno-depiction in media as bad inspiration for public opinion and policy
Ronald Leenes
One of the great qualities of visual media is that its realism induces belief. Using examples from ‘Okkupert’, Homeland, Enemy of the State and other movies and TV series, this talk discusses the misleading representation of technology and its capabilities and how this (may) affect public opinion and policy. Talk about dumb techno-regulation and solutionism seems to be an appropriate ending to this gikii afternoon.
IAPP best privacy paper Award

The International Association of Privacy Professionals (IAPP) sponsors an award for a paper presented at PLSC Europe. The winning author(s) will receive $2500 from IAPP, and an opportunity to publish an abstract or summary of the paper in the Privacy Advisor. The criteria are overall excellence and relevance to the practice of privacy law.

The Jury consists of

- Bryce Newell, Tilburg University (chair)
- Colin J. Bennett, University of Victoria
- Michael Birnack, Tel-Aviv University
- Ryan Calo, University of Washington
- Gloria Gonzalez Fuster, Vrije Universiteit Brussel
- Woodrow Hartzog, Samford University
- Eleni Kosta, Tilburg University
- Orla Lynskey, London School of Economics and Political Science
- Tal Zarsky, University of Haifa

Mirror Room

Entering the WE ARE DATA MIRROR ROOM, you step into a magical area. You experience fun and exciting things. But it’s also a smart area, where visitors are watched and monitored without them knowing. Is it ethical for technology to be so close? To what extent do innovative technologies lead to unwanted transparency?

To be able to answer these questions, you’ll have to enter the WE ARE DATA MIRROR ROOM. After all, it’s only by becoming data you will come to understand the importance of personal privacy.

We are data. Every movement, every action, every emotion is data. This data is stored and presented as truth. Data are facts and they provide us with tons of information. Informative and useful as that may be, there are downsides, too. Is all that data true? And what happens if it falls into the hands of parties we don’t know? If technology can peer into your brain, the privacy debate suddenly becomes urgent, intrusive and extremely personal. WE ARE DATA examines how far technology might enter into your private domain. WE ARE DATA is aimed at finding out how deep technology can penetrate your private life for you to still feel comfortable.

Show your badge at the WE ARE DATA MIRROR ROOM, just outside the Dante building to find out.
Platinum sponsor

Microsoft

Founded in 1975, Microsoft is the leading platform and productivity company for the mobile-first, cloud-first world, and its mission is to empower every person and every organization on the planet to achieve more. Our software innovations generate opportunities for the technology sector, businesses, public sector and consumers worldwide. Microsoft opened its first office in Europe in 1982. We have been investing in and growing with Europe ever since, and today we have over 25,000 local employees, working alongside more than 180,000 partners to empower millions of European consumers and to help transform businesses. In the last decade alone, Microsoft has invested nearly €20 billion in European companies, such as Nokia or Skype, as well as employed thousands of European researchers and engineers.

Event sponsors

iapp

The International Association of Privacy Professionals (IAPP) is the largest and most comprehensive global information privacy community and resource, helping practitioners develop and advance their careers and organizations manage and protect their data. It is a not-for-profit association founded in 2000 supporting and improving the privacy profession globally. IAPP is committed to providing a forum for privacy professionals to share best practices, track trends, advance privacy management issues, standardize the designations for privacy professionals and provide education and guidance on opportunities in the field of information privacy. The IAPP is responsible for developing and launching the only globally recognized credentialing programs in information privacy: the Certified Information Privacy Professional (CIPP), the Certified Information Privacy Manager (CIPM) and the Certified Information Privacy Technologist (CIPT).

Future of Privacy Forum

Future of Privacy Forum is a nonprofit organization that serves as a catalyst for privacy leadership and scholarship, advancing principled data practices in support of emerging technologies. FPF brings together industry, academics, consumer advocates, and other thought leaders to explore the challenges posed by technological innovation and develop privacy protections, ethical norms, and workable business practices. FPF helps fill the void in the “space not occupied by law” which exists due to the speed of technology development. As “data optimists,” we believe that the power of data for good is a net benefit to society, and that it can be well-managed to control risks and offer the best protections and empowerment to consumers and individuals.

The Brabant region has a long tradition of innovation built on collaboration. A new and unique initiative that fosters this tradition is the Jheronimus Academy of Data Science. Within this initiative two universities from Brabant Technical University Eindhoven (TU/e) and Tilburg University (TuU), the province of Brabant and the city of ’s-Hertogenbosch have joint forces around big data. There are many reasons for doing so. Experts consider big data as being the ‘black gold’ of the future that opens up the way to innumerable new business opportunities and new jobs in the region.

Data science is a multidisciplinary scientific field, with a large role for computer science and mathematical and statistical techniques, as well as human-technology interaction, social sciences and legal and ethical aspects. Data Science Center Tilburg is unique in that it combines these areas of expertise from Tilburg University’s different Schools.

Tilburg University’s research is based on a strong tradition of quantitative and technical research skills. In DSC/t its extensive knowledge in applied data science is combined with strong expertise in communication as well as values, ethics and regulatory and legal implications.

Tilburg Law School offers highly-ranked national and international education and legal research. Currently, 3000 students are enrolled at Tilburg Law School, who are doing a degree program in law or public administration. Students in Tilburg can choose from five Bachelor’s programs, one of which is taught in English (Bachelor Global Law) and ten Master’s programs, eight of which are taught in English.

The research conducted within Tilburg Law School is aimed at social relevance and provides students with the tools and skills to study and deal with current issues at an academic level.
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The students helping out prior and during the conference: Eleftherios Chelioudakis, Laura Monhemius, Magdalena Brewczynska (special thanks for helping with the program), Mirell Piir, Anna Lytra, Sebastian-Dan Naste, Aikaterini Pouliou, Karina Bittar Britto Arantes, Jannene Janssen, Ioannis Ntokos, Ingrid Blazer, Zhasmina Kostadinova, Roberta Filippone.

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