Law: Intellectual Property On-Line (AI track) - Room 208

chaired by **Andreas Wiebe, Matěj Myška**

Jan Zibner

Current Copyright Solution of AI's creations

Within the scope of the author's research "Artificial Intelligence as a Technological Challenge to Copyright" and following the exploratory meta-analysis of an artificial intelligence (AI) and copyright in the mutual interactions, it is needed to move to the next phase, the descriptive study of the real situation. Such research phase will be presented in this paper.

The current copyright system is mostly based on the principle that the author shall be only a natural person, and possible creative activity of an AI is not counted. Based on that, AI's creations are not considered to be copyrighted works. The author will therefore focus on a descriptive assessment of the real state and the introduction of possibilities of how to protect the AI's creations. For this purpose, it is necessary to examine what creations are created by an AI, how the law and individual entities actually operate (and can operate) with such creations, what are their options on this issue, and what are the main reasons for the currently set framework. The aim is to evaluate the status quo to and to narrow the idea of the possibilities and limits of resystematization of copyright where copyright is built on the authorship of natural persons.

Dominika Galajdová

Artificial software developer

AI, and its nature, resembles software in many aspects. Moreover, AI technology requires its implementation by software to be functional. Due to this, elements of AI can be protected by intellectual property as a software. The question is whether these two technologies are the same, or similar enough, so that potential legal regulation of AI can be based on existing software law. Does AI technology imitate software or is there important difference between these technologies? There is no hesitation that the factual similarity within these two technologies can provide obstacles for the potential amendment of laws.

Moreover, AI has been used for the purpose of software development, which makes the relationship between software and AI even closer. 1 In the case of software design by AI, the consideration whether there might be an "artificial" software developer is even more interesting. Can we create an AI which would build software from scratch? This raises questions regarding the allocation of authorship and copyright protection of software developed by AI as one of the many legal implications of AI on software law.

This contribution focuses on the relations between AI and software based on the state of art of these technologies. There will also be a consideration of the situation of software developed by AI. Following this analysis, the contribution provides guidance on the allocation of authorship and copyright protection of such software. Finally, there will be an evaluation of the potential implications of AI on the present legal framework of software law.

Bernardo Calabrese

Artificial Intelligence and Copyright: a Competition Law approach

Copyright protection for artificial intelligence works is highly debated in Intellectual Property Law. This paper tries to look at the debate from a Competition Law approach, analyzing impacts on market dynamics and innovation incentives.

Three are the options discussed: i) copyright protection vested in end-users, because of the AI machine's use; ii) copyright vested in the owners of the AI technology, because of the relevant investments; iii) no copyright protection at all, because of the lack of a genuine human author.

Option i) resembles the current situation where copyright is widespread among single authors. However, the characteristics of AI creative production would increase the system entropy, accentuating problems of "copyright thicket" on the market (especially for derivative works).

Option ii) tackles the incentive issue for AI developers. However, it would do so in excess, duplicating the protection already in place for the AI machine as an inventive technology. This would have relevant impacts also on competition dynamics, fostering the establishment of highly concentrated markets with few dominant players (as in other digital markets).

Option iii), as a "negative" solution, avoids the aforementioned problems of copyright thicket and oligopolistic dominance, without impairing the incentive mechanism. However, it could imply a "creative dumping" side effect to the detriment of human authors, with economic and social consequences to be carefully investigated.

Leonhard Reis

IP issues of Augmented Reality and Virtual Reality

Disruptive technologies like Augmented Reality (AR) and Virtual Reality (VR) challenge the current legal regimes that can't provide answers to all potential legal questions arising out of such new technologies. Intellectual property law, especially copyright, is challenged foremost. The paper addresses several of the major copyright aspects, including (i) the copyright protection of works created for AR and VR surroundings, (ii) the virtualization of real life products and (iii) the virtualization of real life surroundings. Focus is on European Union copyright law with a special emphasis on German and Austrian doctrine and decisions. Legal problems of design rights, unfair competition law and data protection law will be touched as well.

Ivan Škorvánek

Police Hacking the Digital Home: A Comparative Look at the Legal Frameworks of Law Enforcement Covert Access to Private Computers

Securing homes (as physical spaces) from physical intrusion by others, including the police, has traditionally been a cornerstone of criminal law's protections for private life, alongside protections for private communications. However, the emergence of digital technologies has enabled others to gaze inside our homes without having to physically enter them. The walls of the home, which have traditionally formed the divide between private and public space (with the doors and windows serving as interfaces between the two) have become increasingly permeable. Shutting doors and closing curtains will no longer shelter the interior of the home from view. Technologies such as thermal imaging, smart meters, malware, and communication interception tools can reveal what is going on inside our private spaces. Protecting mainly against physical intrusion is, therefore, no longer sufficient to maintain the same level of protection afforded the home in the past. In this paper, we present research conducted within the Privacy Spaces project, funded by the Netherlands Organisation for Scientific Research (NWO), addressing the trend of 'evaporating homes'—a metaphor for the gradual diminishing of the concept of home as a boundary marking proxy for the protection of private life. In addition to the increased permeability of the walls of home, the physical home has also been losing its exceptional status as a space important for private life. Searching a person's computer or their smartphone can arguably reveal more about that person than searching their house. Furthermore, whether the computer is located in the home, or elsewhere is often of little consequence to the privacy interests a person has in controlling access to this computer. The recognition of the importance of digital spaces for privacy can be seen in various judicial decisions, for example the identification of a right to confidentiality and integrity of computer systems by the German Constitutional Court or the Italian Supreme Court's use of the term 'informatic home' (Felicioni 2012) as an ideal space comparable to the physical home. The importance of digital spaces has also been recognized by the law enforcement authorities, who seek means to gain access to them for investigative purposes. Accordingly, police investigators increasingly look for ways of obtaining covert access to computers. These online searches, also referred to as police hacking, are often based on a dubious legal basis, but recent years have also seen the introduction of provisions permitting the use of these tools into criminal procedure laws. Notably, since 2017, the German Code of Criminal Procedure includes the power to covertly and remotely access computers, a power that has been dubbed the most intrusive investigation tool in the CCP (Singelnstein, 2017). The term 'online search' suggesting resemblance to physical searches is itself rather misleading. A home search is an open measure, static in the sense that it captures the state of affairs at the time of the search and localized to a particular place. An online search is performed covertly, and due to the nature of information systems potentially captures information generated over an extended period of time and data stored in numerous places. The intrusiveness of such a measure requires that it is clearly and strictly regulated. This paper describes the existing and emerging legal frameworks of police hacking in number of continental European jurisdictions with an aim of identifying boundary marking concepts that can be useful in providing effective protection of privacy in relation to private digital spaces in the context of criminal investigation. In the first part, the paper discusses whether container protection similar to home protection can be applied to computers, or whether other ways of determining what is protection worthy need to be found. The second part describes and compares the various legal bases available to the law enforcement in the selected jurisdictions in order to conduct remote covert searches of computers. The focus will be on the specificity of the legal basis, the scope of powers given and the procedural (and material) safeguards in place. The third part will argue that effective protection cannot merely rely on a formal approach, i.e. putting in place (strict) procedural safeguards, but a more conceptual approach (two examples being the German protection of the core area of private life and the Dutch systematicness criterion) is needed.

Aleksandra Klich

Admissibility of the use of electronic means of evidence obtained unlawfully in civil proceeding

The admissibility of using evidence obtained illegally, referred to as the fruit of the poisonous tree, remains an issue that remains unresolved on the basis of Polish procedural law. Practice in this area is mainly shaped by doctrine and judicature, although there is no categorical position of both the judiciary and the representatives of the doctrine in this respect, which accepts the use of evidentiary means obtained in violation of the law during the proceedings. Considering the progressing process of computerization, electronization and computerization of almost every sphere of life, we should notice an increasing potential for using electronic means of evidence obtained illegally in court proceedings. The author in her paper will focus on those evidence, which is increasingly the subject of proof, noting that it mainly concerns the content of private conversations conducted using messengers and community portals, recording conversations and telephone bills, data from mobile phones, or so-called print screen, which is often obtained in an illegal manner, interfering with the sphere of privacy of the other person.

Law: Government 2.0, eJustice, ODR - Room 040 / 041

chaired by **Ludwig Gramlich, Pavel Loutocký**

Robert Müller-Török

The principles established by the Recommendation CM/Rec(2017)/5 on standards for e-Voting applied to other channels of remote voting

E-Voting is highly suspicious to many citizens and institutions. Past pilots ended before Supreme Courts and often not in favour of e-Voting. Beside this political and legal battles, postal voting seems to be commonly accepted and not in question. Motivated by a landmark ruling of the Austrian Court of Constitution in 2016 [18], which led to the annihilation of the run-off elections result due to irregularities with postal voting, this paper analyses whether current postal voting regulations and standards in Germany comply to the principles established by the Council of Europe recommendation. Both voting channels are channels for remote voting, hence principles established for one channel must, in the view of the author, also be fully applicable for the other channel.

Joanna Maria Studzińska

The legal status of the e-protocol and its transcription in civil proceedings in Poland and the EU countries

In principle, the use of what is called as "e-technology" can provide a number of benefits for the courts, and for the parties to legal proceedings who use them. The changes made in Polish civil procedure in recent years are associated with the development of modern technologies. One of the most important changes was the introduction in 2010 of a new way of recording the course of an open hearing of the court, the so-called electronic protocol (known as the e-protocol). In the provisions of Polish procedural law, a new legal figure that appeared is the form of transcription of an electronic protocol. This tool is to support the work with digital recording, constituting additional functionality of the system.

The main aim of this elaboration is to explain the legal status and importance of the transcription. Especially, that such transcription should fulfill all the requirements of an official written document, also in terms of linguistic correctness and commonly accepted rules of typography. It is a material and technical activity which does not constitute an official document. Transcription of the protocol is only aimed at ensuring the full functionality of the system and the effectiveness of the use of the protocol in electronic form. But it is very important to assure the realisation of the right to acquaint with the course of the proceedings and to allow to appeal against the issued decision.

Jiří Marek, Martin Dvořák, Jan Zvara, Rober Spál, Jaroslav Kacer

The role of third party data in the development of smart and responsive cities

The most of the discussion about Open Data in the Czech Republic are focused on the public sector information provided by the local or national authorities as a foundation for the development of the information society. The market estimated by the European Commission created by the re-use of these datasets is expected in hundreds of billions of euros. But there is also the other part of the story (other market) – the data needed for the city itself from its inhabitants, businesses, in common third parties for the use of better city planning, better and more comprehensive data management of the local data portals or for the city research. There is wide regulation enabling the city to gather data such as place of residence, date of birth etc, but there is no regulation in place to gather proactively secondary data from the third parties on other that contractual basis. The paper will focus on the legal analysis of Open Data from the city as a receiver of the data point of view. The authors will present the model situation based on the data portal of the City of Brno (data.brno.cz) and they will emphasise that the difference between open data and open research data are more than ever closer, because the cities are becoming also a research labs like universities and other entities. The article will in the end also briefly describe the service called BrnoID and its potential role of gathering additional data through so called Citizen Science initiatives.

Law: Privacy and Personal Data - Room 038

chaired by **Jakub Míšek**

Jakub Klodwig

Nowadays cookies situation

The issue of cookie files is crucial for many web features and especially for the online advertising industry. However, contradictions appear not only in the praxis, but also in legislation and interpretation making. The presentation will be about cookies usage and other options for online advertising. It will describe recent legal development to understand, wh y is Cze ch legislat ion in a direct contradiction to the European one.

The second part of the presentation will deal with the legal survey, which maps the real praxis of using cookies on Czech-written news servers. The results of survey will be presented and then compared with claims expressed by WP29 opinion and with draft opinion of The Office for Personal Data protection.

Tamas Szadeczky

Legal problems arising from IoT technology

Internet of Things (IoT) is a fashionable topic nowadays in the IT services market. Most of the big players in IT services would like to enter the market shortly, so a massive improvement in use cases is perceptible. However, there are many definitions of IoT, and currently, it is more of a buzzword, than a real available service. The paper analyses the foreseeable use cases of IoT, while categorizing the legal challenges of their usage, with some solution proposals. The main problems in the aspect of data protection, are traceability and confidentiality issues. The usage of privacy by design might

solve many issues in the field, therefore the paper is proposing practically usable solutions to minimize the probability of exploiting some weaknesses.

Jakob Zanol

About the Protection of Publicly Available Data under the GDPR

In this age of digitalization more and more data is generated publicly available i.e. on the internet. Social media, web-forums and various other websites offer users ways to communicate and share information to the public. This information often constitutes personal, which is protected by the data protection regime of the GDPR. However there are various questions regarding the protective scope that applies to these publicly available data, which shall be presented and discussed within this talk/paper, such as:

- How are personal data that are publicly available protected differently under the GDPR than ""private"" personal data?

- What does ""publicity"" within the GDPR in this context mean? When can data be considered to be ""made public"" by the data subject in regard to Art. 9(2)(e) GDPR?

- How are publicly available data protected differently, if they are to be considered special categories of personal data?

- In what way does the decision of the ECJ in the case C-131/12 (""Google Spain and Google"") determine the protective scope of publicly available data? Is there a ""dynamic"" protection against processing of publicly available data?

- Does the GDPR overprotect or fail to protect the data subject in regard to processing of publicly available data considering the use of new technologies, such as blockchain?

Nimród Mike, Dorin Clisu

Less data is more information. A perspective of anonymization

The provisions of the GDPR on the protection of natural persons with regard to the processing of personal data became effective as per 25th of May, 2018. The current era of personal data protection is accompanied with tense discussions on how this regulation should be applied to its utmost potential. The current paper aims to deliver a solution, by which due to preliminary actions (i.e. data purge), its applicability can be excluded at the earliest possible stage.

The authors are discussing the implementation of an IT system designed to offer information directly to the customers in order to optimize the waiting time at a self-service restaurant. In achieving the desired purpose, there is a need to use real-time surveillance of a publicly accessible area. This is done with the support of cameras placed in the marked-up areas. De facto there is a processing of every guests' personal data, potentially even sensitive ones. The developed solution, implementing both organizational and security measures, provides sufficient manners to anonymize the collected data. At a glance, pursuing the implementation of "Data protection by design" principle, the system due to its architecture outperforms the expectations and it is able to work with only non-personal data.

From a utility point of view, the guests are provided with knowledge on the current and the average waiting-time for serving the dishes: useful information in exchange for anonymized data. Or, low cost for a high reward, respecting privacy laws. A prospective future of IT law in practice.

BlockChains - Room 209

organized by **Herbert Hrachovec, Andreas Kirchner**

Damian Klimas

Blockchain and privacy in GDPR era

""Blockchain technology is on a collision course with EU privacy law""; ""GDPR laws force promising blockchain service to shut down""; ""Blockchain technology may not be the best solution for GDPR"" - those are just few headlines of articles which states that blockchain is more or less ""incompatible"" with GDPR. But does it? GDPR is a great step in ensuring data protection and privacy, nevertheless it surely brings severe challenges for blockchain architecture and the whole industry. The uniqueness of blockchain is that it does not rely on a single provider. Each user of the blockchain uses his or her computing resources, on a peer- to-peer basis. Moreover, each user has a complete copy of the distributed ledger. One of the main ""problems"" in regard to data protection which derives from GDPR is that the data cannot be deleted from the ledger (blockchain). Therefore it has been said that obligations regarding data retention as well as ensuring right to be forgotten (and other rights deriving from GDPR) cannot be met. Some of experts states that having above mentioned in mind (public) blockchains cannot be GDPR compliant. But if GDPR is ""technology neutral"" legislation, such situation should never occur. The speech shall provide answers to questions:

– Is a hash personal data or anonymised data?

– Is it appropriate to process personal data in blockchain?

– Who is the data controller and the data processor in a blockchain context?

– Which blockchains can be GDPR compliant and why?

Ashwinee Kumar

Selecting a type of Blockchain and Protection of Privacy: How difficult to respect the data subject's Trinity rights i.e. right to correct, erasure, and portability

The most recent technological advancement, that the mankind is experiencing is, of course, Blockchain Technology. Experts are of the opinion that the same is self-sufficient to solve numerous kinds of problem like decentralization of database, record keeping, cyber-attack restraint, efficient &

timely management of information, transparency, slow administration, compliance of strict laws etc. in almost all fields ranging from banking, supply chain, education, health, agriculture, land registry and the list is additive. The biggest problem for this technology is to respect the privacy if it needs any modification in the blocks i.e. records. Due to its immutable nature, obeying with data subjects' some rights like correction or erasure or portability. Technically it's almost impossible to do that. However, certain solutions are possible like use of permissioned or private blockchain, or, in few cases, hybrid blockchain. My main focus will to explore the type of blockchain, its characteristics and associated problem with these rights, and possible solutions.

Internet and Society - Room 133

chaired by **Kristian Daneback, Jakub Macek**

Josef Šlerka, Petr Koubský

Whom to Approach When One Needs to Influence a Czech Journalist? Research of Social Neighborhood of Media Professionals Based on Their Twitter Accounts

This paper presents an exploratory analysis that investigates relations and interactions between Czech journalists and their influencers on Twitter. We created a dataset of 400 accounts of media professionals and explored their Twitter followers by the means of social network analysis. The analysis brought several key results. First, using cluster analysis, we demonstrated how journalists follow preferentially their close colleagues rather than professionals from other types of media. Namely, we distinguished four main clusters: public service radio; public service TV (with only very limited mutual connection between these two); commercial media as a whole; and sports journalists (the only cluster connected internally regardless the ownership of the media). We were also able to identify who is recognized as a person worth to follow on Twitter by Czech journalists. Aside from obvious choice of other journalists and politicians, another category of influencers emerged: the category of "Twitter authorities", i.e., persons whose opinion is regarded as important by media professionals rather for their personality itself than for their formal position. These "Twitter authorities" are to a large extent specific for each of the above mentioned clusters. Overall, the exploratory analysis presented in this paper can pave the way for a further broader research of Czech media scene.

Dominika Popielec

Working Methods of Investigative Reporters in the Era of New Technologies

The aim of the paper is to present working methods investigative reporters with particular emphasis on the opportunities offered by new technologies. The methods used to collect information by investigative journalists, for example, analysis of paper documents, a hidden camera and eavesdropping have metamorphosed due to progressive digitalization. Increasingly, investigative journalists use digital documents, communicate with informers through new media and disseminate the results of their investigations in cyberspace. The working techniques of investigative journalists will be analyzed as part of non-profit initiatives: International Consortium of Investigative Journalism and Vsquare. This comparative perspective aims to identify similarities / differences and, in consequence, to indicate certain standards of investigative journalism in cyberspace.

Agata Jaroszek

The problem of racial discrimination on dating portals

For years the problem of racism and discrimination on dating portals has not been properly addressed by the owners of dating services. The owners of dating portals have not offered transparent policies and community guidelines to their users how to act with respect and avoid abusive behaviour while on the search for the Mr/Mrs Right.

According to the academic research and human rights advocats users' profiles of some popular dating portals such as Grindr or Tinder included ethnicity and/or race filters which in some cases might promote racist or bullying or other forms 'toxic' behaviour such as sexual racism, transphobia, and fat shaming.

The aim of the paper is to give some insights into the academic discussion whether a real change in users' attittudes towards discrimination and racism is realistic and what measures have to be taken to initiate a better regulatory framework for combating homophobia on dating portals and applications.

Pavel Izrael, Juraj Holdoš

Parental and children´s perspective on Internet related risks and parental mediation

Parents, whether they are or are not aware of that, play an important role in their children´s life when it comes to the Internet use. They may serve as crucial role models, mediators, tutors or counsellors for their children. The paper examines concurrence between parents and children in assessing each other´s internet related practices and experiences. The paper focuses on issues like parental mediation strategies, meeting strangers, sexting, exposure to sexually explicit content, intimate information of sexual nature. A national survey of 1018 Slovak children (9 to 17 years old) and one of their parents found that in some cases parents and children significantly differ in assessing online risks or negative online experience. As for meeting strangers, almost one third of parents whose children met face to face with someone known from the internet, claimed their children did not have that experience. In the case of sexual content, 10% of parents thought their children had not seen anything like that, while the children stated otherwise. This discrepancy may be a consequence of some children not telling their parents about their potentially risky or sensitive

online experience or some parents´lack of interest in their children's online activities. In addition, parents and children also differ in assessing parental mediation., e.g. 39% claim they never encourage their child to discover and learn new things online, yet 59% of children claim their parents never do so. It seems that some parents tend to present themselves in more positive way.

Law: eCommerce, Digital Single Market - Room 214

chaired by **Zsolt Balogh**

Katarzyna Południak-Gierz

Consequences of use of personalization algorithms in shaping an offer – civil law perspective

Personalization mechanisms, commonly used in consumer e-commerce at the stage of submitting an offer, allow for adjustment of: time, form and manner of contact, the way of concluding the contract (bidding, auction), availability and content of the offer (in terms of price and other provisions). Subsequently concluded agreements can be seen as a new phase of development of consumer transactions' model - a departure from standardization and secondary individualization. The possibility of concluding contracts on a massive scale is retained, but at the same time gained are granularity and flexibility that mimic individualisation of transactions. Special provisions of personalized contracts are missing on EU level and within national Polish system. Then, should we apply provisions on adhesive contracts or individually negotiated ones? Which approach is the more convenient from consumers' perspective? Can it leveraged to diminish asymmetries between the consumer and the professional within the internet environment?

The study includes an analysis of case law and doctrinal approach towards the concept of a standard contract and an individually negotiated one. It examines also the possibility of application of theory on legitimate expectations of the consumer as an interpretation tool. Practical solutions that could improve consumer protection in case of personalized agreements are proposed (by interpretation, presumptions, trust factor, extended duty of loyalty).

Jacek Gołaczyński

Digital content definition

The development of new technologies has made digital content an important subject of legal transactions. At the same time, civil law regulations do not seem to keep pace with the regulation of the subject of legal relations with regard to digital content.Therefore, it should be pointed out that there is no consistent and uniform definition of digital content. Whereas the classification and definition of digital content has a significant impact on the application of different groups of civil law rules. It should be remembered that due to the specificity of digital content that boils down to their non-tangible character, they are also traded internationally, because geographical distances do not constitute an obstacle, as in the case of trade in goods.That causes that digital content is within scope of civil law application as well as raise a number of problems from the perspective of private international law. Confirmation of this is that issues related to digital content were considered within the framework of the European Union, which was reflected in the legislative work conducted there. This paper will be devoted to the discussion of terminological issues in the field of digital content from both the perspective of civil law, private international law and EU law.

Eva Fialová

Legal action of artificial intelligence and its validity

The artificial intelligence is embedded in various autonomous systems operating in cars, household devices, devices connected to the internet of things, etc. Human contractors are nowadays often represented by the artificial intelligence in the form of electronic or software agents. The legal action is defined as the manifestation of will with the legal consequences. No legal action is made where there is an absence of will of the acting person. In this case, we speak about a putative legal action which shall be disregarded. According to the United Nations Convention on the Use of Electronic Communications in International Contracts electronic communications that are generated automatically by message systems or computers without direct human intervention should be regarded as 'originating' from the legal entity on behalf of which the message system or computer is operated. The electronic agents enter into contracts with each other without any human intervention. Devices connected to the internet are able to order goods or services on basis of their own consideration. The individual's will to conclude a particular contract does not exist. The issue concerning the legal validity of the action of agents arises in case of an error and misrepresentation. This paper focuses on legal aspects relating to the legal action of the systems equipped with the artificial intelligence.

Iga Małobęcka-Szwast

The case of online platforms - is there a relevant market for data?

With the emergence of digital economy data has become an indispensable asset for online platforms such as search engines, social networks and e-commerce platforms. Most online platforms are based on two-sided (or multi-sided) business model and data is crucial for operating on both sides of their relevant markets. On the one hand, data is used to increase relevance of search results, suggested social network interactions or purchase suggestions, thereby encouraging consumers to use their services. On the other hand, data is used by such platforms to provide better and more targeted advertising services, which, in turn, are their main source of income. It should be emphasized that both sides of the market are interlinked and interact with each other. Against this background the question arises whether current tools used to define a relevant market (i.e. SSNIP test) remain adequate in the case of online platforms. While defining the relevant markets in the digital economy competition authorities have so far focused usually only on the one side of market, disregarding mutual interactions between them. However, it seems that the definition of the relevant market, which is the core of any competitive analysis, be it abuse of dominance, cartel or merger case, should

include specificity of two-sided business models of online platforms. Finally, since the main pillar and commodity of such markets is data, the question is whether it is possible to define separate market for data.

Law: Intellectual Property On-Line (IP track) - Room 208

chaired by **Andreas Wiebe, Matěj Myška**

Akbar Ismanjanov

The Approaches of Online Media Platforms in Tackling the Copyright Problem and its Congruence with the Copyright Law

With the advent of electronic media platforms, distribution channels reached broader decentralization, allowing every user to be a producer of information content. Open architecture and embedded social networking tools turned electronic media platforms into major channels of communication. However, copyright problems have also shown its persistence in electronic media platforms as evidenced in Viacom v YouTube. This instigated media platforms to implement copyright detecting tools of technological nature to tackle the legal problem of copyright infringement. Application of remedies that substantially differ from the conventional raises the issue of its compliance with copyright law and doctrine.

The copyright law and its licensing tool, as well as contractual mechanism in general, are found to be applicable in the media platforms. However, application of the methods as 'divergence of profits' may have little recall in the law. The obvious problems of electronic media platforms are the compliance of perceptions of originality, specifically quantity rather than the quality wise orientation of substantial copying test, disregard to the permitted acts as, e.g., criticism and de-minimis standard and unequal treatment of user-generated media. Thus urge to reconsider the copyright policies of the media platforms and its technological framework with the aims of reaching closer compliance with the copyright law.

Andrea Katalin Tóth

Algorithmic copyright enforcement and AI: issues and potential solutions

Although digitalization and the emergence of the Internet has caused a long-term crisis for copyright law, technology itself also seems to offer a seemingly ideal solution: copyright has been a major use case for algorithmic enforcement from the early days of digital rights management technologies to the more advanced Content ID algorithms. These technologies identify and filter possibly infringing content automatically and effectively. These methods have been criticized for their shortcomings, such as the lack of transparency, bias and the possible impairment of fundamental rights. AI has the potential to offer even more sophisticated and expeditious enforcement by code, however, it could also aggravate the aforementioned issues. As the EU legislator envisions to make the use of such technologies essentially obligatory for certain online platforms (in the infamous Article 13 of the proposal for a directive on copyright in the digital single market), the assessment of the situation in light of future technological development has become a current topic.

Apart from identifying the main issues and potential long-term consequences of employing filtering algorithms as well as their solutions, such as the implementation of a balanced complaint and redress mechanism for users and detailed disclosure requirements, this paper focuses on the potential role a broad copyright exception for text- and data mining could play in counterbalancing bias in algorithmic enforcement.

Tobias Endrich

How legal standing is killing all formal requirements of trade mark licences, and what to do about it

According to the Supreme Court's interpretation of § 2 of the Industrial Property Enforcement Act (221/2006 Sb.), every licensee can have legal standing in enforcement proceedings, no matter under which law the licence was granted (NS Cdo 1780/2017). Since erga omnes effects of an absolute right can only come about in accordance with the law providing that right, this means that a licensee can have legal standing irrespective of whether the license is effective erga omnes. As a result, the distinction between inter partes and erga omnes effects becomes obsolete: the main erga omnes effect of a licence is the possibility to enforce the right against third parties in one's own name, i.e. – legal standing. Therefore, § 2 of the Industrial Property Enforcement Act circumvents all formal requirements and especially the principle of material publicity of registered licences in Czech industrial property law.

As German trade mark law shows, erga omnes effects of even tacit licence agreements must not be the end of the world. On the other hand, the Intellectual Property Rights Enforcement Directive (2004/48/EC) seems to give the member states leeway, permitting a different reading of the law or a potential de lege ferenda solution, like in § 41 of the Copyright Code (121/2000 Sb.), keeping the formal requirements intact.

The work-in-progress paper aims to critically assess recent case law and legislation, and to contribute to the legal understanding of of cross-border licencing.

Pavel Koukal

Swiss Influences on the Definition of the Copyrighted Works in the Czech Republic / Czechoslovakia

The contribution will be focused on the definiton of the copyrighted works in the Czech Copyright Act and on the related influence of the Swiss copyright doctrine. The author will argue that the concept of the statistical uniqueness of the copyrighted works has been ported into the Czech copyright law by prof. Karel Knap, who was strongly inspired by the teachings of Max Kummer and Alois Troller. Since that times, the concept of statistical uniqueness has become immanent part of

the Czech copyright doctrine, even though courts also recognize works of small coins (Werke der Kleine Munze). The author will conclude that the concept of statistical uniqueness can no longer be applied according to the results coming from case-law of the CJEU.

Law: Cybercrime, Digital Evidence - Room 109

chaired by **Aleš Završnik**

Judyta Kasperkiewicz

INVESTMENT FRAUD: Ponzi scheme and pyramid scheme in cyberspace

It is much easier to become a victim of pyramid schemes nowadays than in the past because of the existence of cyberspace and its universality. A pyramid scheme is a kind of false profitable investment which is in fact illusional to generate profitable investments without investing in a real product or service that would make money. Eventually, the illegal scheme fails as the number of new investments does not cover the withdrawals from the scheme.

Charles Ponzi's enthusiasm and demeanor led investors to trust him with millions of dollars, which were later largely lost. The impact of the scam did not only wipe out individual investments but also caused six banks to fail. The Ponzi scheme did not die along with its namesake – in fact, the largest Ponzi scheme in the history of U.S. has happened quite recently, executed by experienced financier Bernie Madoff.

Because of the prevalence of cyberspace, pyramid schemes are now much more popular than ever before – due to the ease of communication among Internet users and electronic payment systems, including anonymous ones (e.g. cryptocurrencies).

A countermeasure is to raise awareness of possible threats in cyberspace. However, all public institutions should take action to counteract and prevent such financial crime (e.g. strict international cooperation between national institutions under a specific structure).

Aleš Završnik

Machine learning, "deep-fakes" and the raise of algocracy

The Facebook experiment with a massive-scale emotional contagion of its users ((Kramer, Guillory, & Hancock, 2014) revealed the existence of powerful tools for inducing mood and sentiment. Furthermore, the recent case of Cambridge Analytica (Lewis & Hilder, 2018) similarly pointed out the existence of powerful tools for inducing "political contagion" of the public at large. We are witnessing a wider move towards "automated governance", which can distort democratic process such as general elections. What is at stake is the rule of law, which is slowly being substituted by the "rule of the algorithm", and democracy, which is being substituted by "algocracy" (Morozov, 2013). "Do Algorithms Rule the World?" provocatively asks (Brkan, 2017). "Algorithmic Society" (Balkin, 2017) promotes the use of algorithms, artificial intelligence agents, and big data to govern populations: "Algorithmic Society facilitates new forms of surveillance, control, discrimination and manipulation by both government and by private companies" (Balkin, 2017). One of the tools used is "deep fake" technology, which exacerbate "truth decay as our networked information environment interacts in toxic ways with our cognitive biases (Chesney & Citron, 2018).

Law: Government 2.0, eJustice, ODR - Room 040 / 041

chaired by **Ludwig Gramlich, Pavel Loutocký**

Erik Björling

Polycentric dispute resolution

This paper addresses the opportunities and challenges connected to the Commissions platform for ODR (Online Dispute Resolution) with focus on the great diversity of different kinds of ODR offered via the platform. Various types of dispute resolution, ombudsman, complaint boards and mediation institutes (with or without AI) spanning from public bodies to private actors together constitutes several hundred alternatives for European consumers. ODR for consumers can therefore be said to take place in a polycentric landscape for dispute resolution which in turn give rise to questions of mutual recognition, not only between Member States, but also between individual actors (persons and companies) within the EU. The polycentric ODR-landscape also relates to questions concerning the rule of law, the agency of the legal subject and self-regulating systems. Furthermore, the borders between public and private litigation is blurred as both private initiatives and firmly public consumer right authorities are working within the same framework. These matters are explored under the overarching purpose of assessing how a polycentric online dispute resolution system affects fundamental principles of procedural law and the governance of dispute resolution in society.

Pavel Loutocký

Evaluation of the crucial parameters for designing successful ODR model

The traditional judicial mechanisms have not offered suitable solution for settling disputes in online environment. The online dispute resolution (ODR) has developed as a pragmatic response to such unsatisfactory situation. The development and application of ODR systems is however not as successful as it was predicted in the past, because the providers often did not understand the important aspects of successful ODR system and its design.

The main aim of the presentation is to provide and to evaluate individually identified parameters which we considered to be essential for the proper functioning of the ODR. We will thus further assess individual components of functioning of the ODR and a combination of appropriate or inappropriate approaches to the ODR. The parameters we have identified as crucial in our previous research on the basis of existing ODR providers are: (i) the scope of the disputes where ODR is used, (ii) the position of the ODR provider, (iii) the use of modern technologies, (iv) the use of direct or indirect private enforcement mechanisms, (v) existence of other dispute resolution provider, (vi) legal regulation, (vii) the tradition in alternative dispute resolution and (viii) the transparency. On

the basis of evaluation of these parameters we would like to emphasize successful combination of chosen aspects of ODR not only for analysis of working system but also to provide the inspiration how to design new effective ODR systems.

Pedro Miguel Dias Venâncio

The "Electronic File" in the Portuguese Civil Law System

The electronic file is an operating system abstraction that identifies a set of data written to secondary (persistent) memory. Each electronic file consists of three essential elements: (1) the ""name"" - which identifies the file before the user; (2) the ""descriptor"" describing the file before the computer system (size, dates of creation, modification and access, owner, access authorizations, etc.); (3) ""information"" - that is the intelligible content represented by the data stored on disk.

It is thus a reality that does not in itself constitute an ""intellectual creation"" susceptible of protection by intellectual property, but also does not present a corporeal existence independent of the physical medium where such data are recorded in any digital format and, therefore, difficult to integrate into the concept of the ""corporeal thing"" of the civil law tradition.

The importance of the ""electronic file"" in the design and operation of modern computer systems is undeniable.

However, the legal relevance of the electronic file remains controversial and little studied. Is the ""electronic file"" is a ""thing"" for the purposes of civil law? Or, , on the other hand, is the electronic file a legal asset without the status of a thing, and therefore on which the law does not recognize a property right? In this case, what civil protection is recognized on the electronic file?

Katarzyna Klimas

eJustice in Poland and e-CODEX Plus project - what can be done better?

Polish electronic writ-of-payment proceedings is considered as a model of e-civil proceedings in Poland, but the only one for many years. In 2015 polish legislator initiated the idea of electronic filing office which may open the e-justice concept to every type of civil proceedings. But Regulation on the mode of creating and sharing an account in the IT system that supports court proceedings practically forbids foreigners to file any notion or action through electronic filing office. Cross border legal proceedings are not always as easy and straightforward as they could be, especially for foreigner. e-CODEX Plus project try to provide certain eJustice solutions through EC eJustice Portal for all European citizens. The paper will present challenges and solutions regarding e-CODEX Plus project and eJustice status from polish perspective.

Law: Privacy and Personal Data - Room 038

chaired by **Jakub Míšek**

Angela Busacca

Big Data: Preserving Privacy In Social Mining

"The exponential increase in data flows caused by the massive use of ICT systems produces problems regarding the co-existence of two opposing principles of the information society: guarantee of free data flows identified as the paradigm of the freedom of the Internet, (freedom of the Net and in the Net) and protection of personal data. One of these problems concerns the regulation and analysis of vast amount of data that determines the so-called ""Big Data"": i.e. collections of data that require technologies and specific analytical methods for the extraction of value.

Big Data determine not only an increase in data mining modalities, but also the emergence of new methods of social mining (analysis and massive structuring of data of human activities carried out through connected ICT systems and through devices that belong to IoT and use AI systems). Data mining activity is one of the phases of the knowledge data discovery process and requires implementation of strategies and measures of privacy preservation, to reduce to a minimum (or eliminate) the possibility of tracing individual personal data through retroversion.

The proposed paper will analyse some new social data mining methods, aimed to review existing compliance modalities with regard to GDPR § 25 (privacy by design and privacy by default), to evaluate the current position in the perspective of protection of data subjects, considered in their dual role as citizens and consumers.

Anna Wyszecka

The right to data portability – a challenge for controller on the example of the banking sector

Article 20 GDPR is saying about „the right to data portability". I would like to analize this topic because this new regulation, in my opinion, is problematic especially in banking sector.

First of all, Paragraph 1 says about „personal data (...) which he or she provided to controller" we must consider if it means only data which this person gives on some electronic/ paper formulage or also generates as a client. Where is the line between data which was generated by person and by bank's system and how to separate those kind of data?

When data transfer is processed without contribution of person whose data are transferred, we must remember about information, but in any kind of situation?

And what about controller possibility to identify a person who use right to data portability and precise data scope in that situation?

What in case when we have co-controllers? Who of them is obliged to fulfil duty of data portability.

Legislator is using word „machine-readable format", we should define what it exactly means because we do not have definition of that.

Date portability it is automatically meaning implementation of ""the right to be forgotten""?

How about situation when person want to transfer his or her data but this data has influence on another person?

And the most important thing who is responsible for eventually violation of GDPR regulation and what in case where one of the controller is not obliged GDPR regulation?

Zuzana Zolakova

Does General Data Protection Regulation protect your data effectively?

General Data Protection Regulation (GDPR) was introduced by European legislators with big promises. All companies operating in the EU should be benefiting from the one set of data protection rules, the same should apply to data subjects since stronger rules provides more control over their personal data.

GDPR is undoubtedly a crucial milestone in the development of European data protection legal framework, which sets the highest standard of protection of personal data and is eagerly followed by other countries or territories.

Nevertheless, data protection terminology, principles and core institutes defined in mid 90s remained intact, beneficial effect of new obligations (data breach notifications, data protection impact assessment) as well as operative model for supervisory authorities „one stop shop" are to be tested. Transfer tools for international transfers are constatntly questioned and to be judicialy reviewed. The US federal approach to personal data protection is either nonexistent or it focuses on law enforcement authorizations to use data collected or processed in US or by US companies.

The author compares the promises and the reality of the GDPR implementation. She specifically examines the limitations of the GDPR terminology (controller, processor, anonymization) which in the light of current global processing is becoming obsolete, but still determines the scope of the regulation as well as rights and obligations of the parties engaged in the processing.

Jakub Míšek, Jan Tomíšek

Privacy risks of internet advertising and how they are and should be addressed by GDPR and ePrivacy

Modern internet advertising technologies such as real time bidding (RTB) combined with cookie matching cause distribution of data about website viewers across broad network of actors and enable targeted delivery of ads based on this distributed data merged with existing datasets. Potential aggregation of such data by any of these actors and its use for unexpected purposes such as political microtargeting and even manipulation pose significant privacy risk. This paper shall present the current internet advertising technologies such as RTB, analyse their privacy risks in detail and discuss how the current and future EU personal data and ePrivacy legislation applies and should to use of these technologies. The focus of the paper will be the interplay between the General Data Protection Regulation (GDPR) and the current ePrivacy directive with a view to its interpretation by European data protection authorities and implementation in the Czech Republic. Based on the discussion of the shortcomings of the current framework, suggestions for applying the GDPR to internet advertising technologies as well as regulating them in the currently negotiated ePrivacy regulation will be made.

Tihomir Katulić

Application of General Data Protection Regulation: Legal, Institutional and Practical Challenges in Croatia

Recent entering of the General Data Protection Regulation into effect earlier this year marks a significant development milestone in the history of data protection development in Europe. Finally replacing the framework established by the Data Protection Directive in 1995, the new Regulation represents an effort to update EU data protection rules in a world and economy increasingly shaped by commercial use of personal data.

The Regulation updates existing and brings new compliance mechanisms to protect individual's personal data rights enforcing common EU standards of data protection regardless of the legal system, state or supervisory body that interprets it.

It also leaves room for Member States to regulate their specific supervisory system, provide additional rules alongside or over its standards and clarify potentially unclear concepts such as legitimate interest, required data protection officer skillset and expertise, privacy impact assessment methodology and so on.

The new Croatian Law on Implementation of the GDPR, hurriedly pushed through legislative procedure just weeks before the Regulation's entry into force, contains interesting and unique provisions while sidestepping established solutions and failing to address issues such as reuse of data in research, description and definition of criteria for identifying legitimate interest etc. The topic of this paper will be to present provisions of this Act and offer critical insight and suggestions for future development.

BlockChains - Room 209

organized by **Herbert Hrachovec, Andreas Kirchner**

Maria Kaczorowska

Blockchain-based land registration – possibilities and challenges

In recent decades land registration systems operating in Europe and worldwide have been subject to modernisation processes consisting in implementation of information and communication technologies. Such reforms have gradually led to facilitating access to land information, improving effectiveness of land registration proceedings and even developing electronic conveyancing. Another innovative concept much discussed nowadays is the application of blockchain technology in the land registration sector. This solution is currently being tested in a number of countries.

Distributed ledger technology underlying blockchain is expected to revolutionise land registration by offering a secure architecture to store land transactions with the use of cryptographic protocol. This shall bring advantages of increased trust and processing efficiency, as well as reduction of costs. At the same time, however, the above idea raises concerns given the fact that blockchain transactions are irreversible and are carried out without intermediaries. This means the lack of any external control and independent verification of the transactions to be recorded. Moreover, a question arises who shall bear the risk in case of errors affecting the transactions.

The aim of the presentation is to examine potential benefits and risks of automatisation of land transactions and to assess whether blockchain-based registration could indeed replace the existing rules on registering rights to land.

Bogna Kaczorowska

Juridical status of so-called smart contracts against the background of the Polish legal framework

Among substantial advancements challenging contemporary contract law special attention is given to autonomous, cryptographic solutions based on decentralized infrastructure provided by blockchain technology, intended to execute transactions automatically, designated as smart contracts. The need for comprehensive research on legal implications of practical implementation of this technological innovation is triggered particularly by the prognostications declaring it a valid alternative to hitherto contract law framework that is expected to be ultimately replaced by algorithmic mechanisms underpinning smart contracts.

A relevant assessment of the impact smart contracts are presumed to have on the contract law domain requires a thorough analysis of their juridical status. Specificity of the category of smart contracts raises doubts whether they comply with the definition criteria inherent to contract law terminology. Additionally it is of material importance to determine the function smart contracts can perform in the sphere of contractual practice and to confront it with the role and axiology of contract law.

The presentation aims at analysing the peculiarities of smart contracts from the perspective of the Polish private law system with account being also taken of current development tendencies concerning the concept of contract.

Dariusz Szostek

Blockchain-based limited liability companies. Virtual company in Vermont, USA.

This year Vermont's governor has signed a bill allowing for the creation of so-called ""blockchain-based limited liability companies"". Those businesses are described as ""limited liability compan[ies] organized pursuant to this title for the purpose of operating a business that utilizes blockchain technology for a material portion of its business activities.""

Among the requirements for setting up a blockchain-based company in Vermont: applicants must "specify whether the decentralized consensus ledger or database utilized or enabled by the BBLLC will be fully decentralized or partially decentralized and whether such ledger or database will be fully or partially public or private, including the extent of participants' access to information and read and write permissions with respect to protocols."

The speech will contain short background of the legislation and broadly express the evaluation of blockchain-based limited liability companies idea.

Internet and Society - Room 133

chaired by **Kristian Daneback, Jakub Macek**

Lucie Merunková, Josef Šlerka

Goffman´s theory as a Framework for Analysis of Social Interactions in Social Networks

This paper analyses social interactions on Facebook through the lens of dramaturgical sociology, a theoretical framework outlined by Erving Goffman in his book The Presentation of Self in Everyday Life (1959).

The aim of this paper is to investigate how people form their identity on social networks, control the impressions they invoke in their audiences and perform basic social interactions. Furthermore, the paper investigates whether Facebook features Goffman's two principal performative regions – the frontstage and the backstage.

The research presented in this paper consists of qualitative content analysis of 50 Facebook personal profiles and 733 posts published during the period of one month. The findings identify five basic forms through which users create and present their identities, as well as the appropriate secondary roles performed by users who interact with them. These findings are corroborated by 8 semi-structured interviews with respondents, which enable a more in-depth exploration of the way they use Facebook and the social interactions they participate in.

The key results confirm presence of conscious effort to make a desired impression, and with the "Public diary" form of identity creation being the most frequent, it successfully demonstrates, that online social networks are new stages for self presentation.

Overall, this study has proven Goffman's theory of face-to-face interactions to be relevant in the context of online social networks.

Tomáš Karger

The Meaning of Sharing and the Culture of the Internet

This contribution brings together findings about two contexts of sharing in order to explore the

meaning of the word on different layers of what Manuel Castells calls “the culture of the Internet”. First, I use thick description resulting from ethnographic research of free software projects to determine the meaning of sharing common in the hacker culture. Second, I review current literature studying sharing on user generated content platforms to identify a distinct meaning of sharing on the entrepreneurial layer of the Internet culture. By combining the two sets of findings into a single narrative, I show that although representatives from both contexts claim to be taking part in the same sharing practices, there are substantial differences in the type of information being shared, the explicitness of the sharing mechanisms and the organizational context of monetization of the shared objects. The contribution concludes by critically discussing the concept of the culture of the Internet by addressing key points of incongruence among its various layers.

Thomas Roessing

Internet memes as a form of public opinion expression

Internet memes are a popular phenomenon in present-day Internet communication. Internet memes are images, short video clips (or animated images in the .gif format), often containing catch phrases and additional captions (Bauckhage, 2011). They are spread via email, web sites, blogs, discussion forums, and social media. If a meme ‘goes viral’, it reaches a large number of people in a short time. Recipients of memes sometimes alter the content or use the meme in new contexts, thereby contributing to the publicity of the underlying idea.

The present paper focuses on the societal function of memes as a form of public opinion expression. Internet memes often refer to popular culture, computer games or jokes. However, there is a considerable number of memes addressing societal conflicts (such as feminism, racism, religious extremism, or the anti-vaccine movement) or general issues of social relevance (such as the role of science for humankind). Other memes directly address issues of a political nature, such as the wars in the Middle East and the Ukraine, terrorist attacks, and political debates. Moreover, there is a large area of memes indirectly addressing issues of public importance such as international understanding, or human mating rituals.

The paper discusses typical examples for memes addressing public opinion. Potential effects on internet users’ perception of the climate of opinion as well as the role of memes for the concept of a worldwide public opinion are addressed.

13:45 - 15:15 Parallel streams

Law: Intellectual Property On-Line (IP track) - Room 208

chaired by **Andreas Wiebe, Matěj Myška**

Philipp Homar

Virtualisation of Copyright Remuneration: The Applicability of Private Copying Levies on Cloud Storage Services

Due to the prevalence of Cloud Storage Services like Dropbox, iCloud and Google Drive, private copies of copyright protected works are increasingly stored in an online environment. This poses significant challenges to remunerating authors and rightholders: Whenever their works are copied by users for private purposes, they are entitled to claim a fair compensation (Art 5 (2) lit b InfoSoc-Dir). In Austria and Germany, for example, this remuneration is collected in the form of 'hard disk levies' whenever physical storage media (hard disks, CDs, DVDs etc) are placed on the domestic market (manufactured, imported, traded etc). However, as physical storage media are losing significance, the remuneration for private copies is decreasing as well. Against this background, this paper analyses if the current system of remunerating private copies is also applicable to Cloud Storage Services, which constitute the virtual equivalent of physical storage media.

Tito Rendas

Flexibility and legal certainty in EU copyright law (or why we really need a residual fair use standard)

Almost two decades after its adoption, Article 5 InfoSoc Directive keeps generating disagreement. The vast majority of commentators criticize it for lacking the flexibility that is necessary in times of rampant technological change, while arguing that it also fails to provide an adequate degree of legal certainty. In contrast, a stronghold of scholars defends Article 5 on grounds that it offers ample legal certainty, as well as sufficient flexibility.

Both sides agree that the prevailing solution should seek to balance these two values. Strikingly, however, there is scant in-depth reflection on the meaning of "flexibility" and "legal certainty" in the literature. Participants in the debate have been employing these concepts in a rather loose, unspecified manner.

Against this background, the paper offers operative and theoretically grounded conceptualizations of "flexibility" and "legal certainty", dividing each into three benchmark criteria. It then systematically evaluates the InfoSoc framework of exceptions against those criteria and considers avenues for reforming it. The paper concludes that the solution that strikes the best compromise between flexibility and legal certainty is a hybrid, three-tiered framework, which would combine (i) a catalogue of mandatory exceptions for recurring uses with an internal market impact; (ii) a catalogue of optional exceptions; and (iii) a residual fair use-style exception that would empower courts to accommodate unenumerated uses.

Michaela MacDonald

Copyright Implications of Creative Uses of Video Games

Creative uses of video games, such as e-sports and live streaming, fan creations, mods, bots and emulators, or the issue of video game preservation all touch upon a wide range of exclusive rights of the copyright owner (the right of reproduction, display, making derivative works, public performance and so on). The issue is that current copyright law does not yet recognise a category for 'amateur creative expressions' and it is thus unclear what precisely the legal implications of transformative uses of video games are. Copyright owners often opt for the so-called 'tolerated use' policy and there is always a DMCA procedure available. Users, on the other hand, can argue that their use falls under the fair use defence. There is also the 'de minimis' argument, which is based on the premise that the copying is so trivial it does not meet the legal threshold for actionable copying. However, it is difficult, if not impossible, for a lay person to navigate the counter-notice procedure and other avenues in case that their content is taken down or to determine what qualifies as fair use. Moreover, ISPs such as YouTube or Twitch can unilaterally remove content or withdraw their services, leaving users with little or no recourse to pursue their rights. Developing new technologies that allow anyone to produce and circulate 'cultural' material demands that copyright law reconsiders the position of both owners and users of copyright-protected material.

International Internet Law - Room 109

chaired by **Dan Jerker B. Svantesson**

Piotr Rodziewicz

Law applicable to contract on entrustment personal data to process in digital world

Personal data protection is a separate from contract law branch of law having different sources, purpose and character (its rather public law than private law). Nevertheless, the provisions on the protection of personal data refer to contract law, which may be one of the instruments on the basis of which the personal data controller may entrust personal data to process by another entity. Entrustment personal data to process takes place usually in order to perform civil law obligations arising out from a contract. It is entitled, having regard existing relationship between contract law and the provisions on the protection of personal data, to focus on determination law applicable to contractual clauses or separate contract on entrustment personal data to process in transnational

transactions, whereas the digital world knows no boundaries. In particular, restrictions in the scope of the law applicable to the contract clauses on the basis of which personal data are entrusted to process resulting from the GDPR regulation. I reserve that considerations in paper relate to the situations in which the processing of personal data in the context of the activities of an establishment of a controller or a processor located in the EU, regardless of whether the processing takes place in the EU or not.

Dan Jerker B. Svantesson

"I don't want to say I told you so, BUT..." - EU law and geo-location technologies

Lawmakers in the European Union – including the Court of Justice of the European Union – have a history of turning a blind eye to geo-location technologies. This is both surprising and problematic given the importance of geo-location technologies. However, now – under the label of 'geo-blocking' – these technologies are very much the 'flavour of the month' with two Regulations, and a series of court cases focused on geo-location technologies and their impact on matters of jurisdiction.

This paper examines the current, somewhat schizophrenic, EU attitude towards this technology that stands to transform the Internet as we know it.

Tomáš Kozárek

Possible use of ICT technologies in the process of international recognition of decisions

International recognition of decisions is generally based on mutual trust between individual States, which must be capable to ensure fair treatment and access to justice to all subjects without exceptions. Building of this mutual trust is a challenging goal and rather a long term run. However, there are attempts to simplify the whole process of recognition of decision, see European Judicial Area. The question is, if ICT technologies from electronic environment could be used in regards to these simplifying attempts and how?

There already exist attempts to adapt the process of legal recognition to the electronic environment and attempts to use ICT technologies the simplify it. Interesting example of these attempts is Electronic Apostille Program created by the Hague Conference on Private International Law which tries to adapt the institute of apostille to the electronic environment.

The aim of this paper is to explore the possible use of ICT technologies in the process of international recognition of decisions, particularly judgments.

Sandra Sakolciová

Liability of internet service providers for third party content – a nightmare for freedom of expression?

The paper deals with a very current issue of liability of internet service providers (ISPs) for a content published by third parties and its impact on freedom of expression. First question that comes to our mind is – who are ISPs and why are they important for exercising our freedom? Let's take an illustrational case where a newsportal published an article about a certain company on its Facebook fan-page which lured many comments of users, some of which contained criticism of the company and its owner, hate-speech and even direct threats. We may want to ask: Who is responsible for those comments? Can or should Facebook delete those comments and which of them?

In this paper, I try to give answers to all those questions by explaining why, how and when could ISPs face liability for third party content. I further take a look on how ISPs try to prevent their liability (especially by automatic deletion mechanisms) and whether this could lead to over-blocking of (legitimate) content and constitute a private censorship. The paper also illustrates the position of the EU in further development, highlights threats of the liability model posed to the freedom of expression as an important human right and suggests possible de lege ferenda solutions. The three major solutions are i) introduction of "internet courts", ii) ISPs joining initiatives, such as Global Network Initiative and iii) different approach to different kinds of content.

Law: Government 2.0, eJustice, ODR - Room 040 / 041

chaired by **Ludwig Gramlich, Pavel Loutocký**

Marietta Gramczewska

Is dystopian policy created by Big Data? Of the SCS app in a legal system context

The aim of this paper is to present models of Big Data, which are using by an apparatus of the state. Area studies pertain the SCS app implementation by the PRC government. Social Credit System is based on an analysis patterns of proceedings in various society contexts. The System examines tendations of social behaviours and validates natural persons' practices. Briefly, totalitarian regime has changed legal dimension of both responsibility and liability into an intuitional app.

The speech is based on the presentation of three main subtopics.

1. The risk estimation in order to actualize an actuarial justice. Natural person as homo optionis makes many decisions, so that, the only one methodological approach is not possible. The second dilemma seems to be so-called is-ought problem. The risk estimation should divide facts and values or, moreover, falsify arguments.

2. Responsibility and liability are switched from judiciary process to administrative resolution. it should be underline that a form is a technical norm, not an administrative act.. It means that via data

from the SCS app an uncessig and in-real-time punishment of each citizen is becoming to be a daily life.

3. The last subtopic is linked with neoliberalism. Moreover, the SCS app implementation has economic dimension. It relies on an examination of citizens- users' market preferentions. As a result credibility is elaborated. What needs to be expose is a fact that credibility does not mean obedience. Consequently, new perspective, which launches social expectations to Big Data analysis, is visible. This way, reflective government would be able to create policy in accordance with social needs.

František Kasl

eJustice in the light of GDPR

The aim of the contribution is to discuss the challenges to personal data protection originating from the technological transformation of the justice systems. Aside from the comparison of the current stage of eJustice in the EU member states, the legal limitations and prerequisites shall be called to attention and elaborated upon. The focus shall be on the suitable technical and organisational measures, in particular the use of pseudonymisation, encryption, access control, data breach monitoring, as well as vendor verification or control over data. Further attention shall be devoted to liability distribution with regards to compliance with the personal data protection obligations based on various approaches to eJustice systems.

Francesco Giuseppe Sacco, Francesco Romeo

New Tools for the EU Justice Programme

This work compares two of three EU Justice Programme projects, where we are leader or members. Both concern the moment of law application, but with different methodologies; despite the differences, these could be combined to simulate a complete legal procedure.

The first, InterLex, aims to develop a platform to provide information, decision support and training on private international law. Part of the platform plans to identify the jurisdiction and the national law applicable to a case law with a "foreign" element.

The collection of EU case law needs to use common points able to formalize materials in a single way, so that the retrieval of relevant legal materials work.

This method gives a complete case resolution ready to be computerized, focusing on all the literal elements of the analyzed material.

The other project, CREA, concerns the use of equitative algorithms in conflicts resolution, as to reach a consensual agreement and a fair solution between parties.

CREA focuses on division procedure, in which each party receives the best assets to be divided, based on its subjective references. To do so, an analytical approach is used, followed by a cognitive experimental phase, aimed at using AI algorithms.

Strategic behaviors play a key role, being the main issue in using these algorithms, both for parties and for lawyers.

In these cases we will suggest some ways to reach a fair solution based on a "blended" methodology of the two projects.

Law: Privacy and Personal Data - Room 038

chaired by **Jakub Míšek**

Jan Mazur, Maria Patakyova

Regulatory Approaches to Facebook

The voices calling for stricter regulation of Facebook and similar social media grew stronger in 2018. Facebook's scandal of sharing personal data of millions of its users with Cambridge Analytica for the purposes of sophisticated political advertisement highlighted the long existing problem of Facebook's lack of accountability. In response to the scandal, which coincided with long-expected wide-scale implementation of the EU's GDPR, Facebook introduced a series of measures on its platform, such as improved traceability of advertisers, or greater power over one's own data. Moreover, Facebook decided to implement the GDPR rules even outside of the EU. We claim that most of these measures, although improving Facebook's lack of accountability, fall short of addressing the core issue of Facebook's status. Facebook as a platform acts as a medium of commercial and political messages, but it appears to reject such status. Others suggest Facebook should be treated rather as a public forum with strong political implications, requiring political supervision. Finally, the third approach understands Facebook as a tech company with strong monopolistic position. In the paper, we discuss these three approaches to Facebook's regulation.

Dušan Šoltés

The EU/GDPR as a New System of Protection of Personal Data and First Experiences

The paper is dealing with the new EU regulation popularly already known as the GDPR or the General Data Protection Regulation. However, the first experiences with the GDPR are quite mixed ones. First of all, the very and extended concept of personal data is in some cases difficult to protect under the current modern communication means and ways. For example such personal data like telephone numbers, e-mail addresses, etc. it is very difficult to protect under the current wide spread mobile communications. Unfortunately, the GDPR has also not brought with itself any clear explanations of some important innovations in the protection of personal data. For example who and how have to be providing certification for personal data operators as national authorities for protection of personal data have not at all any capacities to carry our such certifications. How should be proceeded in case of risk identifications especially in the conditions of all modern global Internet, e-communications, cloud computing, etc. How to apply and require explicit and direct consent from

owners of personal data in the current widespread use of mobile phones used as photo and video cameras, etc. Many companies and service providers are still recording all phone communications and are not respecting that they have to get in advance an explicit and direct consent, etc. It is also not clear why the limit for child age has been in the GDPR stated at 16 years as according to the existing UN Convention on the right of child it has been 18 years. And last but not least the GDPR has absolutely no chance to protect any personal data already being in the cyberspace accumulated during the previous years since the beginning of the current information society, Internet, social networks, big data, etc. Definitely, the GDPR has been bringing many positive aspects into the system of protection of personal data but it still will need some more systematic work in removing still existing of its negatives and weaknesses. Just threating by high penalties is definitely not enough to remove all remaining problems in protection of personal data. Our paper is going to present some of the existing problems as we have identified them within our research under the ongoing EU funded INFORM project.

Erich Schweighofer, Stephan Radner, Jakob Zanol

Disaster Control: Peoples Participation Through Modern Technology

Part of the project INTERPRETER is the analysis of the possibility to include the population to some degree in the process of an effective Disaster Control. This may be achieved through the development of a smartphone app, which enables the user to interact with the relevant authorities and share information through text, pictures and video-messages. Such an app, which is undoubtedly in the public interest, nonetheless faces various legal requirements (i.e. data protection). In this talk, the most interesting of these legal aspects of such an app shall be discussed, as briefly set out:

- By whom to whom can personal data be shared in the context of disaster prevention and disaster control?

- Which categories of data/types of data (i.e. photographs) may be shared under which circumstances? Which data protection rules apply to these types of data?

- How to ensure effective data protection through measures of privacy-by-design and privacy-by-default in the context of disaster control?

- Which rules apply to the sharing of information between public authorities?

- What is the legal framework of state actors within Disaster Control?

- What laws govern the interaction of state actors and individuals/private entities?

- If individuals are not compliant to data protection/IP/criminal law, can their actions be attributed to state actors?

Anabela Susana de Sousa Gonçalves

The scope of the GDPR and the application of the EU data protection standards

Cross-border data flows have become regular with the technological evolution and with that the significance for individuals and economic agents of identifying which law governs data processing. In particular, it ought to be borne in mind that the internet is diffuse and global by nature for which reason the wide spreading of information across borders and the establishing of contacts and data exchange have become simple and consistent. The increase of cross-border flows of personal data has drawn attention towards the need to protect the privacy of the data subjects: as a fundamental right, on one hand, and to the importance of free flow of personal data for economic reasons, on the other hand, meaning that the use of information technology and the cross border flow of data have a unique function as a key element of infrastructure for efficient industries and a critical productivity enhancer which is crucial for sustaining recovery and laying the foundations for economies that are competitive in the long term. This is the reasons why the EU ruled data protection, first through the Directive 96/45/EC, and more recently through the General Data Protection Regulation (GDPR) that is applied as of 25 May 2018.

The previous Directive on Data Protection was frequently accused of having an extraterritorial application that, in some situations, would make difficult the enforceability claims based in the EU data protection law. The GDPR brings new criteria of territorial application of the EU data protection standards to ensure that the rights and obligations provided for in the GDPR are respected in practice and that there is an effective protection of individuals. The aim of this study is to analyze the scope of the GDPR and the application of the EU data protection standards in comparison with the previous Directive, and to access if the problems of enforcement that rose from the extraterritorial application of the Directive are solved in the GDPR.

Jan Tomíšek

Cloud computing under GDPR: What issues are brought by Article 28?

Cloud computing is not a novel technology, yet we struggle when we try to regulate it. One of the examples is Article 28 of the General Data Protection Regulation (GDPR). While the new legislation builds upon experience with shortcomings of the previous Data Protection Directive, it brings new issues and keeps some of the old problems. Presented paper focuses on the impact of the new legislation on contracts between cloud customers and providers. Firstly, the roles of cloud customers and cloud providers under GDPR will be described. Secondly, the Article 28 will be analyzed, with focus on international data transfer rules, data security and audit rights, pointing out the issues for cloud contracts. International data transfers will be discussed in the light of the newly adopted US CLOUD Act. Concerning data security, the vagueness of the legal requirements will be discussed as an issue. In relation to audit rights, the topic will be the weak relation between the Article 28 and the new certification schemes brought by GDRP. Thirdly, recommendations how to apply the legislation in pragmatic manner by the data protection authorities will be presented.

BlockChains - Room 209

organized by **Herbert Hrachovec, Andreas Kirchner**

Walter Hötzendorfer, Jan Hopes, Christof Tschohl, Markus Kastelitz

Cybercrime regulation and privacy coins - The 5th EU Anti-Money Laundering Directive and its impact on post Bitcoin currencies

Blockchain based anonymous cryptocurrencies such as Monero, Z-Cash and Ethereum, have seen a rise whithin the digital underground. This contribution critically analyses the extension of the scope of "Know your Customer" (KYC) and "Anti Money Laundering" (AML) mechanisms, regarding named coins, introduced by 5th Anti-Money Laundering Directive (5AML). It presents the normative text and its features, gives an overview of the impact on the legal framework. Additionally, the applicability of the Directive on different entities of crypto markets with a focus on the differentiation between hot and cold wallets as well as the term of a gatekeeping entity is discussed. Furthermore, it shows practicable solutions towards KYC and AML compliance for the named entities.

Secondly, the possibilities of preliminary freezing and seizure of crypto assets within the regime of the 5th Anti-Money Laundering Directive and the differences toward the Austrian Code of Criminal Procedure are contrasted. Withal, the paper provides an impact assessment regarding the right to silence (right against self-incrimination) during the preliminary seizure of crypto assets.

Finally, suggestions for further regulation, primarily but not exclusively the option of black- and whitelisting and its impact on the basic right to freedom of property, and the right to free speech are offered.

Valentina Covolo

The 5th Anti-Money Laundering Directive: a New, already Outdated Legal Framework for Cryptocurrencies?

Over the last years, governments and international organizations worldwide raised increasing concerns about the use of cryptocurrencies for criminal purposes. Among the first responses is the EU Directive 2018/843 adopted on 30th May 2018, better known as the 5th Anti-Money Laundering. This first European legal instruments regulating virtual currencies essentially extends KYC requirements and due diligence rules to exchange platforms and wallets providers. It fails, however, to address key technological developments and new business models, which added even more complexity to the virtual currencies panorama during the two years of law-making process. Zero-knowledge proof cryptocurrencies, such as Monero or Zcash, providers engaged in exchange services between virtual currencies, ICOs, among others, cast light on shortfalls that are likely to impair the effectiveness of the newly-adopted measures for combatting money laundering and terrorism financing by means of virtual currencies. Against this background, the present contribution intends to provide an in-depth analysis of the 5th Anti-Money Laundering Directive, highlighting legal loopholes and challenges that the Member States will have to face in implementing the said directive.

Law: Cybersecurity, Cyber-Warfare - Room 133

chaired by **Václav Stupka**

Jakub Harašta

LEGAD in Cyber Wonderland: Making Lawyers Useful in Cyber Exercises

Steadily growing interest in cybersecurity led to surge in number of cyber exercises. While a decade back these events were often well hidden from public (and not necessarily by choice of organisers), today media often report on results of competitive exercises, such as Locked Shields. Cyber exercises are organised on international and national scale to integrate various agencies together, test crisis preparedness and teach IT professionals, lawyers and decision-makers to interact outside their craft. Lawyers take part in these exercises in different roles.

The present paper explores the engagement of legal professional in the role of LEGAD (legal advisor) in cyber exercise. This role requires lawyer to advice IT professionals on possible legal implications of their work, as well as to brief decision makers and concisely introduce the legal framework on the beginning of exercise. It requires knowledge of black-letter law, specific ability to explain its content to non-lawyers, and technical knowledge. Scope of required knowledge and specifics of the role will be discussed in both military and civilian settings.

Paper presents the results of semi-structured interviews with legal, technical and policy personnel taking part in cyber exercises, both in the role of blue team ('players') and white team ('organisers'). Research is supported by the Center for Cyber Law & Policy established by University of Haifa and Israeli National Cyber Directorate.

Papawadee Tanodomdej

The Tallinn Manuals and the Making of the International Law on Cyber Operations

The Tallinn Manuals (the Manuals) attempted to clarify how to apply existing international law to cyber operations. Though the Manuals are non-binding instruments, the Group of International Experts claimed that they reflected the lex lata applicable to cyber operations. However, this claim is questionable due to the dominating role of a few Western states in the drafting process and the linked neglect of the practice of 'affected states' in cyber operations. This article examines the quality of the Manuals' drafting process and the composition and impartiality of the experts involved. It focuses on the issue of the prohibition of the use of force. The aim of this examination is not to discuss whether the Manuals provided the right answer to the question of how international

law applies to cyber operations. Rather, the Manuals function as a case study of how legal scholarship may affect the formation of customary international law. The article concludes that certain rules in the Manuals are marked by NATO influence and overlook the practice of other states engaged in cyber operations. Therefore, the Manuals disregard the generality of state practice, which should be the decisive factor in the formation of customary international law. As far as 'political activism' may be involved, the article argues that the role of legal scholars as assistants to the cognition of international law could be compromised.

Kristina Ramešová

When terrorism goes on-line. The impact of the Directive 2017/541/EU on combating terrorism.

The phrase "cyber terrorism" has been firstly used by Barry Collin from the Californian Institute for Security and Intelligence, who described several possible scenarios of cyber terrorist attack. Sometimes, the term is used in order to catch the attention when describing an attack of a conventional form of terrorism committed by the misuse of ICT. Cybercrime, conventional terrorism or hacktivism may be confused with cyber terrorism. The question is, what is and what is not (yet) cyber terrorism? Speaking about cyber terrorism, the perpetrator must always accomplish all the elements of a particular terrorist crime. To further approximate the definitions of terrorist offences, offences related to a terrorist group and offences related to terrorist activities, the Directive 2017/541/EU on combating terrorism has been adopted. Member States have to bring into force all the relevant provisions of the Directive by September 8th, 2018. In order to ensure the success of investigation and prosecution, effective investigative tools should be adopted. The aim of the paper is to assess the possible impact of the Directive on cyber terrorism and the misuse of ICT within the conventional forms of terrorism, especially regarding the removal of on-line content constituting a public provocation to commit a terrorist offence.

Digital Competences and Technologies in Education - Room 214

chaired by **Jiří Zounek**

Jiří Marek, Lucie Straková

Education: Open Educational Resources (OER) in the Czech Republic, legal status quo in the Czech Republic

The paper will focus on the analysis of the status quo of Open Educational Resources in the Czech Republic from the legal point of view. Authors have been recently working on the study: Otevřené vzdělávací zdroje OER a podpora jejich zavádění do praxe (Open Educational Resources – OER and its implementation into practise) as a part of new Digital Strategy 2020 of the Czech Republic focused on the increasing of the digital competences among teachers and other educational stakeholders. The paper will present findings presented in the study and especially will focus on the legal readiness of the Czech Republic and European legislation towards broader adoption of OER as a new educational standard. The last part will be focused on authors' experience with OER in the context of Creative Commons licences, because of the compliance with the funding schemes and the topicality of the issue.

Jiří Poláček

Digital competences in computer-supported collaborative learning

This submission brings the thematically oriented partial findings extracted from the wide-ranging research on the dynamics of computer-supported collaborative learning within managerial simulation game "Manahra" environment. Using both qualitative and quantitative methods, it has been investigated which digital competences students perceive as crucial to the success of their team in the game and how the computer-mediated communication skills affect the dynamics of group learning. A qualitative analysis of in-depth interviews with students revealed that the competitive environment of "Manahra" significantly develops at least two kinds of digital competences among the members of study groups. It is the ability of effective online communication which is essential for on-going problem solving and, subsequently, the ability to the proper use of online tools to mutual performance monitoring that helps in keeping abreast of the group events and reduces the risk of errors in group tasks. Follow-up quantitative analysis of the survey data mapped the levels of competences to the computer-mediated communication (efficiency, productivity and social dimension) and unveiled the effect of social interaction on helping behaviour. At the end of the paper, the findings are discussed.

Ondřej Bárta, Libor Juhaňák, Klára Záleská,Jiří Zounek

Ambivalence in ICT-related learning

As members of the research team within the project Digital technologies in everyday life and learning of students (supported by the Grant Agency of the Czech Republic, project number 17-06152S) explore various sources of data, from large-scale international datasets like PISA or ICILS, through focus groups in schools, and case studies in families including young people, ambivalence in learning using ICT becomes clearer than ever.

One of the partial studies focused on PISA 2015 data analysis for the Czech sample. It explores relationships between students´ ICT use and their school performance, while coming up with some interesting findings, such as an absence of influence of the ICT equipment in schools on students´ school performance and presence of influence of ICT equipment at home on students´ school performance, but at the same time showing no link between the ICT usage at home and students´ school performance, while finding a negative link between the ICT usage in schools and the students´ school performance. Yet another partial study of the team, focus groups with the students in the final year of the lower secondary schools in the Czech Republic, suggests that the ambivalences outlined above are an integral part of ICT-related learning in Czech schools, with a

rather strong drive for ICT usage by teachers on one end, and an equally strong drive to limit the ICT usage by students. Sources and implications of such ambivalence are explored and discussed.

Art & Cyberspace - Room 208

chaired by **Jana Horáková**

Louis Armand

The Cybernetic "Predicament" & Auto-Destructive Art

This paper focuses on the Cybernetic Serendipity exhibition of 1968 & the specific contribution by Bruce Lacey, Nam June Paik, Jean Tinguely & Gustav Metzger. It examines the relationship between cybernetics as a science of "control" & the function of indeterminacy, chance & the irrational in machine-art practices influenced by the thinking of Marcel Duchamp & John Cage. In contrast to the predominant utilitarian & rationalist approaches to cybernetics, the construction of satirical-critical "machines" not only raises questions about what machines are & what they are for, but about the ideological character of machine aesthetics & machine culture generally – & how machines may evolve beyond the limits of conventional predictive modelling in the future. Above all – & against the supposed "neutrality" of cybernetics (as scientific discourse) – the satirical-critical machines of Lacey, Paik, Tinguely, Metzger & others, expose its inherently political dimensions.

Jozef Kelemen

A Few Notes on Creativity, Innovations, and Automation

The talk presents some opinions on reflection of ideas from computer science in the fields of pioneering computational branches of musical and graphical arts. It is focused esp. to the work by M. Minsky in musics (e.g. his and Machovers „brain opera") and in „methodology", by A. Lindenmayer and the reflection of his idea o L systems in graphic arts, and to results in graphics produced autonomously by H. Cohen´s computer driwen system Aaron). The provoking question of the (possible) difference(s) between creativity and innovations are touched, too.

Zuzana Husárová

(Post)digital Poetry

The artist talk will present (post)digital poetic projects by Zuzana Husárová, a Slovak author and researcher of electronic literature. The talk will map her digital and postdigital literary projects in relation to the concepts of solo vs. collaborative works, sound/perfo/e-lit/transmedia and interdisciplinary as well as intermedia contexts. Zuzana Husárová is the author of experimental literature across various media, has created sound poetry, interactive digital poetry, poetic performances and transmedia poetry. She has collaborated with Ľubomír Panák on interactive literary pieces (with the use of Kinect: Enter: in' Wodies, I: *ttter, Android applications Obvia Gaude, Talis Quadra, digital literature BA-Tale, Pulse). She has co-authored with Amalia Roxana Filip transmedia projects liminal and lucent 2012-2014 (visual poetry books, sound poetry and live performances www.liminal.name), has collaborated with other artists and dancers on multimedia performances. She is currently teaching at the Institut für Sprachkunst, Universität für Angewandte Kunst in Vienna and is ex-Fulbright scholar at Writing and Humanistic Studies at MIT, USA. Webpage: www.zuz.husarova.net

Legal Informatics - Room 109

chaired by **Erich Schweighofer, Jakub Harašta**

Kinga Luiza Flaga-Gieruszyńska

Internet instruments for dissemination of information about law and justice - Polish experience

In the Polish legal system, as a result of the ongoing process of computerization of the system of justice, a number of solutions have been introduced to disseminate information about applicable law, as well as the judicial activity of common courts and the Supreme Court. For this purpose, commercial solutions are used, and above all public constructions, such as information portals. The current state of development of this type of instruments is only the beginning of shaping an effective model of using Internet means of communication for the needs of developing citizens' legal awareness and proper perception of judicial authorities. This is evidenced by the weak scope of using social media, publishing recordings from proceedings of significant importance to the public interest, etc. At this stage, it is important to diagnose the current state and determine the prospects for further pro-development activities.

Maria Dymitruk

Right to the court in automated judicial proceedings

One of the ideas on improving justice is to use AI as a tool automating judicial proceedings. This automation can come into existence by building AI system carrying out numerous adjudicating activities and reasoning processes. AI can be engaged in the process of legal decision-making both by making the decision and by recommending it. However, the possibility to use AI in law automation requires detailed analysis of admissibility to use such tools in legal proceedings. According to article 6 of the European Convention on Human Rights everyone is entitled to a fair and public hearing within a reasonable time by an independent and impartial tribunal established by law. The paper will attempt to verify whether the use of AI in the administration of justice (as sole decision-maker or as a judge-supporting system) is compliant with the right to a court. In order to answer the question, whether AI-judge can be understood as "the tribunal" it will be necessary to determine persons or bodies entitled to adjudicate. Additionally, "the tribunal" must satisfy a series of further requirements: independence, impartiality etc. Should AI fulfil them? Answers on these questions will make it possible to decide, whether: (1) current regulations allow full automation of the judicial procedure – hypothetical replacement of the judge with the AI system, (2) AI can be implemented only as the system supporting the human judge, (3) none of the above will comply

with European legal order.

Erich Schweighofer

Legal data analytics

This paper will give an overview on the present state of legal data analytics, including previous methods in AI & law. The goal of legal data science is to complement the existing methodology of law with new computer-based methods, and to bring it into a theoretical framework.

The potential of this approach should be explored and an overview of present use will be given. Thoughts will be given for a proper inclusion in legal study programmes.

Alan Żukowski

The legal argument mapping software. Dialectically toward an abductive-nomological model

The aim of this paper is to analyse the legal arguing theory via the dialectical argument mapping software tool. The software is appropriate to be used for confronting only basic thesis. Consequently, an argumentative reduction seems to be necessary.

Firstly, the reversed deductive-nomological model will be presented. Nomological part: how an abstract institutional artifact (explanandum) has an impact on a normative explanation (explanans). Deductive part: is significant to monotonic causation in order to close an algorithm of scientific reasoning. The argumentative reduction (abduction) is based on a reversal of the presented process (recovering law model; abductive-nomological model), because the main aim is not to factual explain only the establishment of norm-formulation principles. The norm-formulation principles are social contexts and cases that caused the precept (legal norm) had been actualized. It is important to outline, norm-formulation principles are contextual; precepts: intertextual; consequences (articles in legal acts): textual.

When a legal argumentation will be described as confrontation of the disputed articles, it seems to be reasonable to elaborate norms to enter them into the dialectical argument mapping software. This level is not fully appropriate. The process of authentication in legal arguments mapping relies on simplification of oppositional arguments to norm-formulation principle (diction) and contradiction (counter-diction). The speech contains a presentation of simplification methodologies. The basic method is an analysis of legal databases and implementation of searched legal data in two graphs. The final stage is mapping in order to confront opposing graphs via the dialectical argument mapping software tool.

Tomer Libal, Matteo Pascucci

Automated Reasoning in Normative Detachment Structures with Ideal Conditions

Systems of deontic logic suffer either from being too expressive and therefore hard to mechanize, or from being too simple to capture relevant aspects of normative reasoning. In this article we look for a suitable way in between: the automation of a simple logic of normative ideality and sub-ideality that is not affected by many deontic paradoxes and that is expressive enough to capture contrary-to-duty reason- ing. We show that this logic is very useful to reason on normative scenarios from which one can extract a certain kind of argumentative structure, called a Normative Detachment Structure with Ideal Conditions. The theoretical analysis of the logic is accompanied by examples of automated reasoning on a concrete legal text.

Psychology of Cyberspace - Room 040 / 041

chaired by **David Šmahel**

Armin Klaps, Jan Aden, Anastasya Bunina, Niklas Käfer, Zuzana Kovacovsky, David Meckfessel, Birgit Ursula Stetina

Back to square one – Subjective ratings, "objective" measures and VR

VR is entering the practical field rapidly and is applied by practitioners in a shotgun approach with unclear results from research. One of the missing aspects is the relation between subjective ratings and "objective" physiological measures of VR experiences.

To get a deeper understanding of the relation a lab experiment with three relaxation conditions was carried out. C1: relaxation without any technology, C2: VR, C3: VR and Sound. 37 participants (mean age 21.3 years; 75.7% female) were tested and surveyed using a subjective rating. The VR-Scenario (island), Unity, was applied with HTC-Vive and physiological data was collected using a multi sensor from "Neuromaster" (insight) with "Biolife" (data collection in real time) that measures skin conduction level (SCL), skin temperature (TEMP), pulse rate (PR), and pulse curve (PC). Statistical analysis included GLM procedures.

Results show that from a subjective viewpoint VR together with sound (C3) has the most relaxing effect ($F(2,72)=17.37, p<.001, \eta 2=.325$). This can only be confirmed looking at SCL ($F(2,66)=8.48, p=.001, \eta 2=.204$). TEMP indicates least relaxing effect of VR and sound ($F(2,66)=32.44, p<.001, \eta 2=.496$). PC shows the most relaxing effect of VR (C2) ($F(2,66)=5.41, p=.007, \eta 2=.141$) and PR shows no significant difference at all.

We have to return to our labs and study the basic effects of VR, compare them to subjective measures and build an evidence-based foundation for the application of VR in clinical practice.

Christiane Atzmüller, Ulrike Zartler, Ingrid Kromer

Gender differences in online civil courage

Young people are not only victims and offenders of online attacks, they are particularly often uninvolved observers of digital violence. These so-called online bystanders have the potential to influence related conflicts by contributing to further escalation or by taking sides with the victim and acting in a morally courageous way – despite the risk to become victimized themselves. However, adolescents are reluctant to perform acts of online civil courage. Existing studies indicate

that male adolescents intervene even less often than female. Although research has indicated that female and male juveniles differ in their perceptions of digital violence, their strategies in dealing with it, and in their intervention behavior, detailed studies considering gender-sensitive perspectives are still rare, and many questions remain unanswered.

This contribution addresses the outlined research gaps by investigating the contextual factors of online environments that characterize the intervention behavior of female and male juvenile online bystanders. Findings are based on 19 group discussions with 142 adolescents aged 14 to 19 years. We shed light on what prevents females and males from standing up for others online, and provide knowledge for a successful mobilization of adolescents for more online civil courage.

Anke Görzig, Sally Palmer

Differential Discrimination by Type of Mental Illness: Bystander Behaviour in Cyber-bullying

Individuals from discriminated against backgrounds including those with mental health difficulties are disproportionately represented as victims in bullying events. Research applying the Stereotype Content Model (SCM; Cuddy et al., 2008) to mental health conditions has shown that different mental health conditions are perceived differently on the stereotypic dimensions put forward by the model. Behavioural tendencies towards individuals with a certain mental health condition can be predicted from those stereotypic perceptions (Sadler, 2012, 2015). The current research aimed to determine whether the behaviours of bystanders towards an individual with a particular mental health condition is associated with the stereotypic perception of that mental health condition. Two-hundred-fifteen undergraduate students (132 female) aged 18-35 (M=22.5) were randomly allocated to one of four conditions. Participants were presented with a cyber-bullying scenario where the victim was shown as having one of three mental health conditions (autism, depression, schizophrenia) or to be a typical student (control). Behavioural intentions, stereotypic traits and attitudes associated with the mental health condition as well as contextual factors were assessed. Multinomial regression analyses with the victim's group membership as the dependent variable showed that behavioural intentions varied between conditions in comparison to the control group whilst taking contextual factors into account.

AI Liability - Room 038

chaired by **Radim Polčák**

Veronika Žolnerčíková

Allocation of Liability in a Fleet of Driverless Cars

The topic of this paper is the allocation of legal liability in an interconnected system with multiple autonomous units. A fleet of autonomous (driverless) cars will be used as an example of such system. When speaking about autonomous cars, the issue at hand is who is liable in the case that an accident occurs. Whether that shall be the car's operator, owner, manufacturer or the programmer of the car's artificial intelligence, one must first designate the car responsible for the failure.

A constant exchange of information takes place in a fleet of driverless cars. They communicate with each other and with the surrounding smart environment as well (i.e. traffic signs, dynamic traffic lights). They also rely on other services when in operation, such as positioning system or telecommunications network. As a result, the designation of the erring unit can prove to be difficult.

This paper offers summary of possible solutions on how the responsible unit can be designated in an interconnected system. The focus lies on the legal perspective; therefore, the goal is to subsequently analyse, whether these practical solutions can be subsumed under the existing legal framework.

Klára Přenosilová

Truck platooning, autopilot failure and compensation

The artificial intelligence does not cover only human-like robots. Under the term artificial intelligence we may also understand highly automated vehicles and other technology useful in the everyday life. Under highly automated cars we understand vehicles driven by an autopilot which overtakes all driving functions. The driver, however, is still present in the driver cabin and therefore should be able to intervene, if necessary. In my paper I will focus on highly automated trucks equipped with smart technologies allowing them to communicate mutually and to establish a convoy. This so called truck platooning is characterised by advantages which may benefit the whole society: lower fuel consumption and CO2 emissions, safety and reduced traffic jams. At the same time, this new technology brings many legal issues that need to be clarified. One of the most pressing issues is the question of damages. The focus will be put on the liability for damages caused by a malfunctioning autopilot. The paper will analyze such a liability through the lens of two major concepts of compensation in the Czech law: the damage caused by a product defect and the damage caused by the operation of a means of traffic. What are the pros and cons of both these concepts? Which one is more favourable for the operator / producer? What concept would improve the road safety? All these questions will be answered. To conclude, the aim of the paper will be to present two alternative approaches to damage caused by highly automated trucks and to give an idea of the impacts. On this basis a suggestion will be made what concept of damages is more suitable to be adopted.

Nicholas J. Gervassis

Fight fire with A.I.: Digital Services, Machine Learning and the Human Use of Human Beings

This paper discusses current and future issues as emerging from interactions between humans and online automated processes. A great amount of digital services' designing has been invested in preparing intelligent mechanisms for receiving customer orders, collecting feedback, processing data, troubleshooting, and even enforcement. Since the prospect of creating actual Artificial

Intelligence (AI) first became more or less possible in the 20th century, the potential treatment which humans would receive by intelligent machines has been extensively explored as a theme in philosophy and in fiction. In our era of fast, interconnected computers, of ubiquitous 'smart' machines and of the Internet of Things, the study of AI has been revived in discussions about machine learning and the embedding of intelligence in algorithmic operations. The scenarios about potential interactions between human and machine, which used to appeal to philosophers and sci-fi authors as 'the stuff of nightmares', have been hesitantly frequenting our computer and smartphone screens, in the shape of e.g. (not so) 'easy to access and use services' and (not so) 'friendly chat-bots'. Most of us have, one way or the other, experienced the frustration of dealing with a badly designed online service, and that as an updated aspect of the old 'bureaucracy' trope. Talking figuratively about having to deal with a soulless bureaucrat, we are seemingly now venturing into 'literal' territory, as in dealing with soulless machines. Reflecting on familiar warnings in ethics, fiction and pop-culture, we realise that as a matter of personal – and, why not, 'mass'? – experience, the path from frustration to horror can be shorter than we might believe. By blending also anecdotal accounts and references to more contemporary works of fiction, the discussion will examine issues of machine learning design with a focus on interactions with (online) digital services, without leaving outside the emerging prospects for automated management of human personnel, in general.

Kamil Szpyt

Do androids dream about plagiarism? About the issue of liability for copyright infringement by Artificial Intelligence.

Advisement about the issue of legal responsibility of AI is appearing more and more often in the legal doctrine. Most usually it refers to the assesment of the potential possibility of causing a fatality by an autonomoys car or a futuristic vision of creating lethal machines based on the concept of the Terminator. It seems, however, that this problem on a wide scale in practice will occur for the first time while accompanying copyright violation by "artistically oriented" AI. Undoubtedly, it will be of international nature, considering the fact, that AI will use the Internet very often, which is a great source of information. For this reason, it is necessary to seek solutions to this problem at least within the range of the EU Law. At the same time, one should perceive the issue multidimensionally: considering the cases of processing/converting pieces of work, to which author's economic rigjts expired, in the context of both economic rights themselves and authors moral rights. An especially interesting issue concerns the plagiarism commited by a AI on pieces of work created by another one. Nonetheless, only after determinng what kind of rights have been violated (if any), one might point who is responsible for the violation: the programmer, the AI user, or maybe... the AI itself? This kind of advisement has been included in this paper.

BlockChains - Room 209

organized by **Herbert Hrachovec, Andreas Kirchner**

Lucie Straková

Is Blockchain really a breakthrough for collective management?

Blockchain has recently become a sexy solution for all issues related to modern technologies, including those relating to copyright. A common argument of supporters of this technology is that Blockchain is a tool that allows transparent administration of collective management and helps to combat the mistrust of authors and users towards the functioning of existing royalties' distribution algorithms. Other possible benefits expected are to facilitate micropayments of the royalties and generally access data managed by collecting societies.

Collective societies are now keeping lists of the works they manage, asking for tracks used by licensees, they are conducting surveys of the music listened to. This all means that collective management organisations already have databases of the works and they are actively using them. The current regulation according to the EU law requires an elevated level of transparency for collective management societies, therefore they are obliged to make their current operations more clear and useful for both authors and creators.

The author will try to elaborate the question whether the Blockchain technology can really be a silver bullet for a system of collective management, specifically in relation to uses on the Internet, or whether we are just waving a Blockchain wand and waiting for a magical solution to one of the crucial questions of today's copyright.

Ondřej Svoboda

Can blockchain bring technology and trade closer together?

International trade has not still recovered from the crisis 2007-2011 and protectionism is on the rise. At the same time, rapid development of new technologies such as blockchain, smart contracts or artificial intelligence have a potential to bring together technology and trade.

Blockchain can positively impact global trade in terms of supply chains, enhance compliance software, draft smarter contracts or expand access to trade financing. As the transaction costs of doing business are very high, it is argued that blockchain can help small and medium sized enterprises (SMEs). As SMEs account for 50 % of the global GDP, but over half of their trade finance requests are rejected against 7 % for multinational, blockchain employed for an access to global pool of funds can unlock SMEs' potential substanially. On the other hand, there are enormous difficulties ahead. People will have to learn how to use this technology. For effective implementation of blockchain, they will must understand it and trust it. Another important dimension is regulatory framework which is currently missing.

In my contribution, I will focus on the potential role and challenges of new technologies in future development of international trade. Particularly, the nexus of commercial relations between producers, suppliers and financiers will be analysed, envisaging potential use of blockchain as a

platform creating a global digital marketplace.

Video Games and Society - Room 133

(special stream) chaired by **Cyril Brom, Zdeněk Záhora**

Robert Wallace Vaagan, Tonguc Ibrahim Sezen, Kamran Bagheri

Education and learning as game mechanics: effects of AI and "gaming disorder"

This article employs a multi-lens approach to video games and society. Using our first lens, we present an overview of video gaming with an emphasis on the use of education and learning as game mechanics. Switching to our second lens, we consider how recent developments in artificial (AI) have impacted video games, including the role of non-player characters (NPCs). With our third lens, we broaden the perspective to consider the ethical, social and political consequences of the 11th Revision of the International Classification of Diseases (ICD-11) which included "gaming disorder". In combination, our multi-lens approach allows us to analyze and present new insights into, the current state of affairs of video games and society, with suggested new fields of research.

References

Joost Raessens & Jefffrey Goldstein (Eds.) (2005). Handbook of Computer Game Studies. Cambridge MA: MIT Press.

Steven J. A. Ward (2015). Ethics and the Media. An Introduction. Cambridge: CUP.

World Health Organization (2018). "What is gaming disorder". Retrieved 15.06.2018 from: http://www.who.int/features/qa/gaming-disorder/en/

Michaela Slussareff

Higher Sustainability of Mental Models Acquired from Digital Game in Comparison with Life Action Role-Playing Game and Classic Lecture

The aim of this paper is to explore and describe the qualitative differences and sustainability of mental models constructed within three various educational environments: (1) digital game played on PCs, (2) non-digital role-playing game and (3) classic lecture with discussions. We evaluated the mental models through content analysis of concept maps drawn by the sample of 253 high-school students (M=112, F=141, mean age 16.5) immediately after the educational intervention and one month later. Within the analysis, we studied content, architecture and changes in mental models over time. The data brought an important qualitative insight into the process of mental models creation and sustainability within game-based learning, particularly digital game-based learning. The concept maps of the digital game-based learners depictured some inherent differences in comparison with the educational role-playing and classic lecture; the students tended to keep their mental models in long-term memory less altered even after the one month period. It seems that the digital game-based learning environment is more successful in the mental models retention and the efficacy of the future recall.

Ondřej Javora, Tereza Hannemann, Cyril Brom

Effects of Animation in Educational Games on Children's Learning Outcomes

We have investigated whether the level of animation improves of hampers learning from an educational game in case of Grade 3-5 children. We have developed two distinctive versions of a simulation game in which players learn about plant water transportation and photosynthesis (for about 20 minutes). The first version, a "dynamic" one, has fully animated learning environment. The second version, a "static" version, is almost static: It features only animations representing instructional information (for example, flowing water inside of the plant), but not entertaining animations. Which version will lead to the better learning outcomes, if any? On the one hand, Cognitive-Affective Theory of Learning from Media considers motivation to positively affect cognitive processes needed for meaningful learning to occur. The dynamic version can enhance intrinsic motivation, which can result in higher cognitive engagement, facilitating learning. On the other hand, research suggests that a high number of animated elements can lead to visual distraction and cognitive overload, hampering learning. Because no relevant research has been done on game-like interactive materials, especially not for children, we have examined these contradicting predictions in a comparative study with between-subject design (N = 134). The study was conducted in March – June 2018. The results are now being analyzed and will be presented at the Cyberspace conference.

Law: Intellectual Property On-Line (Exceptions and Limitations) - Room 214

chaired by **Matěj Myška**

Matěj Myška

Principles of Implementation, Interpretation and Application of Exceptions and Limitations in EU Copyright Framework

The regulation of exceptions and limitations to exclusive rights in the Information Society directive primarily aims to achieve the balance between the rights and interests of respective rightholders and users (recital 31 Information Society directive). Furthermore, the regulation in the Information Society directive also strives to achieve the balance "between the different legal traditions in Member States and the proper functioning of the internal market" (recital 32 Information Society directive). This provision has been already subject to various preliminary references to the Court of

Justice of the European Union. By analysing the relevant case law, this paper aims to extract the principles of interpretation and application of the limits of exclusive rights. Specifically, it will focus on answering the question what are the limits of the Member states in implementing the Art. 5 of the Information Society directive. Inter alia, it will identify, to what extent are the Member States free to determine, how the implementation might be construed, interpreted and applied. Also, it would try to answer the question, whether the Member States might limit the exclusive rights also in other cases than foreseen in the Art. 5 of the Information Society Directive.

Jakub Míšek

Sui generis database right: Internal and External exceptions and limitations

Sui generis database right aims to protect investment which was made in the course of obtaining, verification or presentation of its content. Nevertheless, the law provides several exceptions and limitation, both as the internal part of the sui generis database right protection system as well as an external one. Firstly, as the European Directive 96/9/EC states in Rec. 49 and in Art. 8, a lawful user cannot be prevented from extracting and re-utilising insubstantial parts of the content of the database. Furthermore, member states may set down in their national law, that in some situations even a substantial part of the database may be extracted and re-utilised. These instances can be understood as internal exceptions to the sui generis right. Secondly, as an external limitation can be understood a recently added provision in the Czech Copyright Act which states that certain types of databases are excluded from the sui generis database protection because they are made in the course of fulfilling the legal duties of public sector bodies. Thus, they are treated similarly to official works.

The presentation provides an overview of both internal and external exceptions and limitations of sui generis database right with an accent on the Czech legal framework and interesting interpretation problems brought by the amendment that introduced official work exception for sui generis database right.

Michal Koščík

Copyright exceptions for preserving digital cultural heritage and the policy objectives of the DSM directive

The proposed paper contributes to the discussion about the policy objectives of current and proposed copyright exceptions that are in place to protect and facilitate access to cultural heritage in the digital form.

The paper describes the he current understanding of cultural heritage and current exceptions and limitations to copyright that are being relied on by "heritage institutions" and the current understanding of the "out-of-commerce works".

Next, the paper will analyse the two exceptions contained in the DSM directive for cultural heritage institutions, which follow the objective of the "Preservation" of works in the collections of the heritage institutions" and "Sharing out of commerce works". The paper will critically assess the suitability of those two exceptions light of broader policy objectives such as conservation and safeguarding of cultural heritage of European significance (Art. 167 TFEU) and supporting contemporary cultural, artistic and creative works which may represent the cultural heritage of the future (OJ C 463, 23.12.2014).

17:15 - 18:45 Parallel streams

Art & Cyberspace - Room 208

chaired by **Jana Horáková**

Radek Návrat

On New Ethics of New Image

One of the phenomena enabled by the rapid boom of information technology was digital moving images flooding the world. Nevertheless, this occurrence – especially reinforced by the arrival of cloud computing – harbours a potential environmental threat. Transmission and storing of these images require enormous amounts of energy which mainly comes from combustion of fossil fuels. This contribution on new ethics of the new image will discuss this situation by summarizing the current state of affairs, introducing predominant trends and trying to find the cause and possible solution to the problems with perfection-chasing, unbound images.

Barbora Trnková, Tomáš Javůrek, Kamil Jeřábek

Scaffolding for Digital Art: Constructivists Art Practices in the Insufficient Environment

The digital and online art practices require a constructivists approach. Not because of progress nor innovation but because cyberspace is built on top of a constructivists approach. Digital artists need some kind of scaffolding to be able to act within undecidable and incomplete conditions of the space, where infinity is an error and continuum is an opposite. They have to reflect on such a kind of space from positions of ethics, hesitation, humility, insufficiency, and many others non-digital, art-first points of view to help to reshape the power curve to over-heating, over-manipulating, over-controlling or over-computing of our daily lives. The scaffolding should be as indiscriminate as possible to help to route the cyberspace matter in any, perhaps unlikely, directions. Artists should construct elevators, routers, gliders, ships or "whatever" to explore, feel, touch, deconstruct, reconstruct or simply continually debase the cyberspace, even ever elusive. On the panel Art & Cyberspace, we will present our ongoing research in the field of big data analysis and interpretation by artistic practice.

Michal Kindernay

Calendarium Cæli

Calendarium Cæli presents ongoing series of tools and outcomes as a follow-up of #Heliophilia project. It includes large video installation presenting long term recordings structured and analysed by special technique in stripes floating in time (whole cycle of 12 months). Ultra wide format screenings shows the weather of the whole year in motion. There is VR version which allows visitor to be immersed by the weather within the whole year and also by instantaneous weather situation. Interactive process of capturing the sky over the camera and telescope, can generate the immersive picture every day to resulting image of the weather of an hour, month or year.

Religion in Cyberspace - Room 109

(special stream) chaired by **Vít Šisler**

Lars de Wildt

Remixed Religion: Videogames' Eclectic use of Religious Traditions

Final Fantasy XV, latest in a long-running series, opens ostensibly in a confrontation with Lucifer in hell. Instead, it is Ifrit, after the 'infernal' djinn of Islamic folklore. Later, players seek Lakshmi; summon Shiva; hear Christian choral music; encounter Egyptian mythological birds; and so on, alongside the 30-year old series' own elaborate mythological staples.

Such eclectic mixes of religious and fictional traditions seem to trivialize and commodify them. They are also common, yet much of the literature on religion in cyberspace focuses on the appearance of well-divided, singular traditions.

We analyze how game series such as Final Fantasy, God of War and others exemplify a care-free "eclectic" use of multiple traditions. Historical and sociological analysis shows that games have long combined religious and fictional traditions, juxtaposing various 'mutually exclusive' traditions of sacredness as essentially and purposefully equal.

We argue that this juxtaposition is not alien to embodied religious practices. In line with sociological and anthropological observations of recent years, we conclude that these games' "eclectic religiosity" echoes seldom-established but globally occuring religious practices of multiple religious belonging. It invites, furthermore, reflection on the role of (digital) culture in the embodied consequences of theories on religious pluralism, especially vis-a-vis idealized, monolithic and singular religious traditions of "ultimate meaning."

Anna Vošalíková

Manifestation of Transhumanism in Video Game Design

This paper deals with the manifestation of transhumanism in the design of video games. First, it presents a brief description of the historical background of transhumanism as a philosophy and its relation to computer games. Second, it analyses two role-playing games, Bioshock and Witcher III: Wild Hunt, and discusses how elements of transhumanism are reflected in the design of both games. The research utilizes Grounded theory. By doing so, it uses three-step coding, analysing the layers of video game content using in vivo coding, axial coding, and selective coding,. This method is employed so as to maximize the efficiency of the breaking down of the raw data extracted from both

of the examined games. The research consists of two case studies, one of which is dedicated to Bioshock and moderated evolution and the second to Witcher III: Wild Hunt and magical transhumanism. The main goal of the research is to track the manifestation of transhumanist principles in all aspects of both examined games. The findings indicate that transhumanism is an integral part of both games, particularly when it comes to story setting and mechanics. Furthermore, the paper argues that video games could to some extent be perceived as a manifestation of transhumanism by themselves.

Dheepa Sundaram

Digital Darśan: Hindu "Branding" and the "E"-conomy of Ritual on Demand

This paper explores the rapid growth in Hindu virtual worship platforms and how these contribute to the production of a globalized Hindu "brand." Online rituals, religious tourism, social media, and app spirituality offer the possibility for reform, innovation, and resistant modes of worship. My work questions whether this freedom of access necessarily means open accessibility of virtual sacred spaces for marginalized groups within Indian soteriological and social frameworks, especially for disadvantaged castes/classes, women, and disabled persons. I argue that by marketing Hindu belief services as products, virtual worship platforms have created a "soteriological marketplace" that envisions a "Vedicized" lifestyle tailored to wealthy, upper-caste Hindus. Users entering virtual sacred spaces participate in individualized commercial processes that produce salable blocks of Hinduism. By linking so-called authentic Hindu practice to using "best Vedic priests" and "a sacred space where rituals are performed," as shubhpuja.com and many other sites claim to do, online worship spaces help produce a virtual caste system while helping fashion a Hindu "brand" that can be marketed globally, catering to both orthoprax concerns as well as modern convenience. Ultimately, I show how this "branding" homogenizes and sanitizes Hindu traditions, beliefs, practices while participating more broadly, however unwittingly, in the production of ethno-nationalist Hindu ideologies.

Steven Michael Vose

Digitizing Sacred Authority: The Dynamic Online Biographies of a Jain Spiritual Leader

The Jain layman Rajacandra (d. 1901) was a spiritual leader and critic of rituals and monastic authorities. The Agas Ashram (AA), founded in 1919 by his chief disciple, produced his first biography. Recently, the AA's webpage has included biographical details not previously seen in printed or earlier web versions, but which appear on the Dharampur Mission (DM) website. Founded in 2001 by Jain layman and self-styled guru, Rakeshbhai Jhavery, the DM appeals to diaspora and middle-class Jains, calling itself a "global movement." Its website has a high production value, contrasting with the simple text of the AA. The DM's Facebook page depicts Rakesh as a cosmopolitan guru, comfortable with Indian government and business leaders while maintaining his spiritual persona as Rajacandra's successor. I argue that the DM presents Rajacandra as a "modern Jain guru" to jettison traditional sectarian affiliations while providing adherents with a vision of Jainism as a logic-based, rational, and prosperous religion that also includes traditional ritual practices. The AA's changes to its biography create a virtual feedback loop, effectively authorizing the DM's added details of Rajacandra's biography. The loop between these two sites "mainstreams" Rajacandra as a spiritual authority for upper-class and diaspora Jains and licenses the DM's ritual practices. These websites, which operate as digital archives, have become generative sources of both sacred authority and religious identity.

Psychology of Cyberspace - Room 040 / 041

chaired by **David Šmahel**

Hana Drtilová, Hana Macháčková, Martina Šmahelová

The Credibility of Online Information from the Perspective of Women Suffering with Eating Disorders

The use of online information can have a substantial impact on people suffering with eating disorders (ED). The quality of online information may differ, thus the evaluation of this information in terms of credibility can be crucial. Therefore, this qualitative study focused on the evaluation of the credibility of online information from the perspective of young women who suffer with ED. Thematic analysis was used to analyse 30 individual interviews with women aged 16-28 who suffer with ED. The themes related to the individual characteristics of these women (e.g., motivation, exposure to information, and abilities and resources) and the character of the cues they use in their credibility evaluation (e.g., content credibility cues, characteristics of other users, and website credibility cues) were described. Moreover, the role of ED phases were depicted within all of the themes. The findings are discussed with regard to the individual specifics related to ED and the importance of social elements in the credibility evaluation. These elements were prevalent throughout most of the themes; however their role in the evaluation differed according to personal characteristics and especially the ED phase.

Birgit Ursula, Stetina Armin Klaps, Maria Fröhlinger, Zuzana Kovacovsky

Online self-help for stigmatized people: Adipositas as an example for a relevant sublinical condition

Using the Internet as medium for research endeavors gives us the option to study populations that are difficult to reach. In a clinical setting those are especially people suffering from problems which are not (yet) considered a disorder. Adipositas is one of those problems. It includes social stigma and is not (yet) accepted as psychological disorder. Therefore, many more people are suffering than necessary.

What are the benefits of an online forum for people suffering from Adipositas and what do they

think could help them regarding treatment?

Using online-content analysis the largest German speaking adipositas forum (adipositas24.de) was analyzed using the available postings.

Results show that the main reasons for using the online forum include (1) enhanced self-esteem, (2) encouragement, (3) exchange of information, (4) support and (5) financial aspects. Users describe a highly valued exchange with like-minded people including all mentioned categories and the often discussed easier opening process than face-to-face.

Open online discussions without social stigmatization help people to cope with their situation. Sadly, there is no study that compares such a form of online self-help group with traditional forms of counselling or treatment and combined forms. Many more, and ideally mixed methods designs, studies are needed to show the relevance of a "stigma-free place" for these hidden populations.

Adam Klocek, Martina Šmahelová, Lenka Knapová, David Šmahel, Steriani Elavsky

General practitioner´s perspective on barriers to ICT use and factors influencing ICT usage: A cross-sectional cohort study

Aim of this study is to explore recent eHealth and other clinical practice-oriented ICTs usage by Czech general practitioners, to elucidate their motivation and barriers to eHealth technologies adoption and to investigate the relationship between number of personal ICT devices used, eHealth readiness, professional burnout syndrome and personal physical activity and ICT usage in general practice. A cross-sectional online questionnaire study was conducted. General practitioners from seven randomly selected Czech regions were contacted via email and phone call (N=777). 196 participants replied and 153 were selected. Hierarchical multilinear regression analysis was conducted with control for age, gender and city size. ICT usage in general practice was predicted by eHealth readiness of the general practitioners (B=0.095; Beta=0.390; t=4.07; p<.000). Other predictors were not significant. Main perceived barriers to eHealth adoption were: time-consumption (19.8%), motivation (19.8%) and technical barriers (12.1%). Overall, it is necessary to educate general practitioners about benefits of eHealth to accompany the growth of ICT usage.

Dmitri Rozgonjuk, Jon D. Elhai; Karin Täht, Kristjan Vassil, Jason C. Levine, Gordon J. G. Asmundson

Problematic smartphone use, social and non-social smartphone use, and intolerance of uncertainty: insights from a repeated-measures study

The aim of the current work was to investigate relations between problematic smartphone use (PSU) severity and intolerance of uncertainty (IU), a transdiagnostic psychopathology construct reflecting individual differences in reacting to uncertain situations and events. The effective sample comprised 261 college students. Participants completed a web survey using the Smartphone Addiction Scale-Short Version (measuring PSU), Social and Process Smartphone Use Scale, and Intolerance of Uncertainty Scale-Short Form. The survey was administered twice, with approximately one month separating two measurement waves. In this paper, the measures of intolerance of uncertainty and social/non-social smartphone use from Time 1 and the PSU score from Time 2 were used. Correlation analyses showed that IU and both social and non-social smartphone use are related to Time 2 levels of PSU. In a structural equation model, IU was positively associated with non-social smartphone use, but not with social smartphone use. Non-social smartphone use was related to Time 2 PSU severity. Mediation analysis showed that only non-social smartphone use mediated the relationship between IU and levels of PSU. The study contributes to PSU research by demonstrating that IU and PSU are associated, and that non-social smartphone use drives that relationship. In addition, the repeated-measures study design allows for more valid causal interpretation of results.

Manipulative Techniques On-Line - Room 209

chaired by **Miroslav Mareš**

Petra Vejvodová

How to manipulate: the techniques of online disinformation media

With the development of modern technologies, specifically Internet, also propaganda and disinformation campaigns have changed their features. Information always used to be important and weaponized, but nowadays the relevance of information reached probably its historical maximum. That is reflected in political and military thinking, e.g. implementation of concepts of information society and information warfare. Disinformation online media became one of the symptoms or tools (depending on their understanding). Their role is intensively discussed, but most of the research in based on qualitative approaches analyzing single stories and narratives disseminated by them. This contribution comes with conclusions of research of manipulative techniques and approaches, which are present in and used by online disinformation media outlets in the Czech Republic. The research combines quantitative and qualitative methods in order to detect, what kind of manipulative techniques are used and in what way. The research deconstructs their power over peoples` hearts and minds.

Miroslava Pavlíková

Techniques of Robotic Propaganda on Twitter

This contribution aims to identify more or less usual forms of robotic propaganda. Research focuses on the social network Twitter, which is a favorite platform for robotic propaganda actors like national states, politicians, political parties or various kinds of proxies. The main objective is to describe a complex framework of contemporary robotic propaganda with the usage of classic propaganda techniques and to depict new forms, which occurred with most sophisticated technologies. This analysis could be an outcome for future typologies of robotic propaganda techniques on Twitter.

Miloš Gregor, Vít Baisa

Original, or Copy Paste? An Analysis of Czech Disinformation Media Outlets Content

Disinformation have been popular in recent years with both the general public, as well as the academic community. Many contributions analyze the sources of disinformation messages, their content, or the manipulative techniques used by the authors of such disinformation to influence the audience. Just a little is known, however, of how so-called disinformation media outlets have been interacting with each other. This paper aims to contribute to the mosaic of disinformation scene at the beginning of the 21st century by analyzing the interrelationships of websites spreading the disinformation in Czech. The paper consists of an analysis of the content of 60 sites that are perceived as problematic and spreading disinformation by the professionals. The analysis is made on articles published in January 2018, the month of the election of the President of the Czech Republic, when many such websites were more active than usual. The aim of the analysis is to reveal which sites formed their own content and which, on the other hand, took over from elsewhere, to what extent was the content being taken up and to what extent the texts were originally written by authors'. This will help us to better understand the linkage (whether conscious or unconscious) between the content of individual disinformation media outlets and answer the question of whether some of these media outlets may be perceived as active content creators and others rather as plagiarists copying the content from other sites.

Klaudia Aleksandra Rosińska

Fake news as a problem of Cyberspace

In 2016, "post-truth" was named word of the year by the Oxford Dictionary. Definition explain that post-truth is an adjective defined as relating to or denoting circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief. Very logical looks „fake news" as word of the year 2017. Its natural consequence of post-truth world. What kind of relations is between this two words and meanings? In my speech I show that fake news is consequence of Post Truth Era. Negative consequence. The stratospheric rise of the internet and social media in the last 20 years has contributed to post-truth. The internet is a low-cost media platform for news and opinion and so it might be thought of as having a 'democratizing' influence, allowing minority and marginal groups to make their views known more widely. Social media gives fake news simple way to be more popular. In USA election the world sow that cyberspace is in danger because of fake news about politics. Fake information can be publicated and start be sharing in huge viral. A lot of people have possibility to read that information and be manipulated. On the end of my presentation I give some ways how to spot fake news.

Legal Issues in Machine-Generated Data - Room 133

chaired by **Estelle Derclaye**

Alina Trapova

Machine learning and copyright law: a net of ownership claims

Many artificial intelligence machines employ machine learning techniques to produce creative output. The processes though could differ to the extent that it becomes difficult to determine copyright ownership in the final output. Recent years have witnessed a boom in algorithms involving cognition-imitating processes. Different to traditional digital editing programs, these machines fed with large datasets develop complex decision-making, bringing about unforeseen creative outcomes.

This research critically analyses the problem of allocating ownership in the final creative output. Since most copyright traditions inevitably link ownership to a human-being there is a gap in the current law. Before delving into the ownership conundrum the process in each creation needs to be thoroughly comprehended. At times, parts of the initial raw material might be stored or modified or alternatively, abstract illustrations of these might be retained. Additionally, a degree of human interference during the process could appear. These peculiarities disguised as complex technical language have repercussions on the allocation of ownership in the final output.

The expected policy contribution of this research is to avoid a situation of discontinuity in copyright law by adequately safeguarding the author's role in the creative industries. Thus, it is preferable if the law is, if not one step ahead of innovation, at least better prepared to face the next technological challenge.

Tuomas Tiihonen

The Economics of Ownership in Generic Data

The European Union's plans for accelerating the creation of a data-driven economy include a cautious suggestion for the creation of an ownership right to sensor data for the owner or long-time lessee of the device. The underlying assertion of inefficiencies in data use stems inevitably from the current, contractual division of rights, which rarely favours the end-user of the device.

Data protected by existing personal data and copyright regimes is excluded from the scope of this research, as the rights have already matured much further than what has been neither necessary nor feasible for ""generic"" data. Trade secrets are, however, not excluded, as strengthening legislative development in the area has made it susceptible for collision with data ownership.

The main part of the research concentrates on finding Pareto-efficient solutions to creating property rights in non-personal data. For options failing this, Kaldor-Hicks-efficient solutions are also discussed. Key problems regarding Pareto-efficiency and sensor data can be illustrated with the inevitable juxtaposition of trade secrets and data ownership by the user of the device.