

Global Legal Research and Information Management: Legal Scholars and New Technologies, 7.5 HEC

January 27 - February 21, 2025

SCHEDULE - OVERVIEW

All seminars are held in the **Faculty Room** (Fakultetsrummet) on the 8th floor (directly to the right of the elevator on floor 8).

Day	Jan 30-Feb 3	Module 1: Law and technology I		
Mon	Jan 27	10-12	The past and future of cyberlaw	Liane Colonna
Tue	Jan 28	10-12	Law - too lethargic for the online era?	Liane Colonna
Fri	Jan 31	10-12	Seminar	Liane Colonna
Day	Feb 6-10	Module 2: Law and technology II		
Mon	Feb 3	10-12	The law and artificial intelligence: Can't an LLM just write my dissertation?	Liane Colonna
Tue	Feb 4	10-12	The quest for law/IT law problem solving	Professor Peter Wahlgren
Fri	Feb 7	13-15	Seminar	Liane Colonna
Day	Feb 13-17	Module 3: Legal scholars and technology (practical use of ICT to support doctoral students)		
Thurs	Feb 13	13-15	Developing legal research skills and methodologies: expanding the paradigm through the use of technology	Liane Colonna
Fri	Feb 14	13-15	Seminar	Liane Colonna
Day	Feb 17-21	Module 4: GRiM Winter School		
Mon	Feb 17	10-12	Emerging and disruptive technologies and the evolution of Law (Liane Colonna)	
		13-15	Law Liberty Leviathan: Individual Autonomy in an Age of Artificial Intelligence and Existential Risk	Cyril Holm
Tue	Feb 18	10-12	Regulating emerging technologies (tentative title)	Associate Professor Stanley Greenstein
		13-15	The Politics of Data in EU law (student lecture) - https://link.springer.com/article/10.1007/s44206-022-00021-3	Professor Ugo Pagallo, University of Turin
Wed	Feb 19	10-12	Outer Space Law and the AI revolution (faculty lecture + mandatory student lecture) https://link.springer.com/article/10.1007/s13347-023-00626-7	Professor Ugo Pagallo, University of Turin
		13-15	Big data, competition law aspects	Björn Lundqvist
Thu	Feb 20	10-12		Katja de Vries
		13-15	The visualization of law	Liane Colonna
Fri	Feb 21	10-12	GDPR for Researchers	Liane Colonna
		13-15	Semantic representation of legal information	Professor Peter Wahlgren

ASSESSMENT TASKS

Active participation in the course discussions, including reading preparation. Please note, this course is lecture intensive. You must also read approximately 16 articles in total but otherwise, all other reading is just recommended. There is no reading assigned for the GRiM week since there are so many lectures: the idea is to learn the material in the classroom.

Please read all assigned articles in advance of class and be prepared to actively participate in the group discussions. I know that you are all very busy so I have provided you with my discussion questions below so you can focus your reading accordingly. I have also included some optional reading for those students who have the time and interest.

There is a requirement of active attendance at 80% of the seminars. Active attendance means that the student shall have prepared the seminar assignments and be prepared to participate in seminar discussions.

Each student will submit a paper (max. 1250 words) every week, in which he or she examines the relevance of the concepts under discussion for his or her dissertation. The student will also briefly present this paper orally at the weekly, Friday seminar in front of his or her classmates (this is a great chance to talk about your research and to get feedback on it!).

Assignments should be submitted 24 hours before each tutorial to Liane Colonna at liane.colonna@juridicum.su.se. You can also share your papers with your classmates if you wish.

Each student will submit a final paper (max. 5000 words in English), drawing out the key insights for the course as relevant to the student.

SCHEDULE - READING LIST

Module 1: Law and technology I

Jan 27 – Jan 31

Jan 27 (10-12), The past and future of cyberlaw (Liane Colonna)

Reading

- David R. Johnson and David G. Post, *Law and Borders–The Rise of Law in Cyberspace*, 48 Stanford Law Review 1367 (1996).
- Lawrence Lessig, *The Law of the Horse: What Cyberlaw Might Teach*, 113 Harvard Law Review 501 (1999).
- Deirdre K. Mulligan and Kenneth A. Bamberger, *Saving Governance-by-Design*, 106 Cal. L. Rev. 697 (2018).

Discussion questions based on reading:

David R. Johnson and David G. Post, *Law and Borders–The Rise of Law in Cyberspace*, 48 Stanford Law Review 1367 (1996).

- Do Johnson and Post believe that territorially-based legal regimes can be applied online? Why or why not?
- What do Johnson and Post advocate for instead of territorially-based legal regimes?
- Does Johnson and Post overstate the impossibility of regulation? Do they mistake valid regulation with some measure of near perfect enforcement?

Lawrence Lessig, *The Law of the Horse: What Cyberlaw Might Teach*, 113 Harvard Law Review 501 (1999).

- Lessig theorized that there were four modalities that applied force to control the choice of actions of an individual's behavior online: law, architecture, norms and the market. What did he first say about law?
- What does Lessig say about the limits on law's power over cyberspace? What examples does he provide?
- What is Lessig's concept of network architecture all about?
- When it comes to architectural designs? What was Lessig concerned about?
- The article closes with some lessons. What are they?
- What big issues arise in the context of the internet that need to be governed by law or some other form?

Deirdre K. Mulligan and Kenneth A. Bamberger, *Saving Governance-by-Design*, 106 Cal. L. Rev. 697 (2018).

- In what ways have different actors come to realize the power of technology design to regulate behavior?
- How are values embedded in technology? What happens when law is "translated" into code?
- What challenges and risks to public values exist when regulating through technology? What are four key governance-by-design dysfunctions?
- How do Mulligan and Bamberger suggest that we can save "governance-by-design"? Do you agree?

Optional reading:

Laurence E. Diver, *Digisprudence: The affordance of legitimacy in code-as-law*, Doctoral thesis (The University of Edinburgh April 2019), Chapter 1.

- Examine how Diver discusses some of the core concepts presented in your assigned reading. Also take note of the way that he presents his research questions and theoretical framework. Do you think he does a good job?

Ronald Leenes, Erica Palmerini, Bert-Jaap Koops, Andrea Bertolini, Pericle Salvini, *Regulatory Challenges of Robotics: Some Guidelines for Addressing Legal and Ethical Issues*, 9 Law, Innovation and Technology 1 (2017).

Thibault Schrepel, *Law + Technology*, Stanford CodeX Working Paper 19 May 2022

General questions for discussion:

- Does the existence of widespread computer-assisted communications-cyberspace-really raise novel legal issues? Or does it raise the same issues that lawyers have had to grapple with for decades, only in a different medium?
- Does the Internet create distinctive legal challenges for international law and international institutions?
- Is cyberspace a separate legal domain, for which new rules are needed and the old rules are useless, inappropriate, or self-defeating?
- Can legal norms be articulated in code? If so, what is gained and what is lost in translation? If not, what happens to legal norms when we transform them into computer code? Are they transformed into illegal or alegal norms, or are they transformed into rules or algorithms that do not qualify as norms?
- Does code have the potential to be a complete regulator of human behavior? If so, what concerns are raised?
- Should laws be technology specific or technology neutral? That is, should laws be drawn narrowly to specific technologies or broadly to general characteristics?
- Do you think the technological revolutions that we are currently experiencing are propelling us into a Post-Westphalian legal order? If so, how? If not, why?
- How does the discussion of "how to regulate the internet" echo the current societal debate about "how to regulate AI"?

Reading:

- Gary E. Marchant, *The Growing Gap Between Emerging Technologies and the Law*, In: *The Growing Gap Between Emerging Technologies and Legal-Ethical Oversight* (Springer 2011), 19-33.
- Mireille Hildebrandt, *Technology and the End of Law in Facing the Limits of the Law*, In: *Facing the Limits of the Law* (Springer 2008), 1-22.
- Marco Almada, *Regulation by Design and the Governance of Technological Futures*, *European Journal of Risk Regulation* (2023) 1-13.
- Lyria Bennett Moses, *How to Think about Law, Regulation and Technology: Problems with 'Technology' as a Regulatory Target*, 5 *Law, Innovation and Technology* 1 (2015).

Discussion questions based on reading:

Gary E. Marchant, *The Growing Gap Between Emerging Technologies and the Law*, In: *The Growing Gap Between Emerging Technologies and Legal-Ethical Oversight* (Springer 2011), 19-33

- How does Marchant explain the pacing problem? What are some of the dimensions of the pacing problem?
- What is the ossification of rulemaking?
- Can you sum up some of Moses' potential problems that may result from the failure of law to keep pace with technology? Do you agree? Do you see any other problems that she fails to identify?
- What legal mechanisms might provide more flexible and adoptive regulatory systems?
- What do you think about self-regulation or cooperative regulation?
- What do you think about principles-based regulation?

Mireille Hildebrandt, *Technology and the End of Law in Facing the Limits of the Law*, In: *Facing the Limits of the Law* (Springer 2008), 1-22.

- What is legal normativity?
- What is the non-neutrality thesis?
- What is the normative impact of a technology? How can it be regulative? How can it be constitutive?
- What is the multi-stability of technologies?
- What is the difference between a legal and a technological impact? What does the author say about the difference?
- What are the three different conceptions of law that Hildebrandt describes?

Marco Almada, *Regulation by Design and the Governance of Technological Futures*, *European Journal of Risk Regulation* (2023) 1-13

- How does Almada describe Regulation by Design?

- What is the role of designers in Regulation by Design?
- What legitimacy concerns does he raise concerning Regulation by Design?

Lyria Bennett Moses, *How to Think about Law, Regulation and Technology: Problems with 'Technology' as a Regulatory Target*, 5 *Law, Innovation and Technology* 1 (2015).

- What is regulation and how is it broader and narrower than law?
- What is “technology regulation”?
- What is the challenge of regulatory connection?
- What is the pacing problem?
- What is the Collingridge dilemma?
- Moses’ main point is that ‘technology regulation’ is not the best lens for considering the kinds of issues raised by new technologies. Do you agree?

Optional reading:

Erik Claes, Wouter Devroe, Bert Keirsbilck, *The Limits of the Law*, In: *Facing the Limits of the Law* (Springer 2008), 1-24. What are some of the functions of the law?

Karen Yeung, *Algorithmic Regulation: A Critical Interrogation*, 12 *Regulation & Governance* 505 (2018)

Uben John, *Can Artificial Intelligence be Regulated? Lessons from Legislative Techniques*, In: 2020-2021 *Nordic Yearbook - Law in the Era of Artificial Intelligence* (eds. Liane Colonna and Stanley Greenstein)(Stockholm, The Swedish Law and Informatics Research Institute (IRI)(2022).

Kostina Prifti, Jessica Morley, Claudio Novelli and Luciano Floridi, *Regulation by Design: Features, Practices, Limitations, and Governance Implications* (February 13, 2024), 1-34, 4. Available at SSRN: <https://ssrn.com/abstract=4724454> or <http://dx.doi.org/10.2139/ssrn.4724454>

General questions for discussion:

- Is the nature of law changing?
- What is the role of technology in law?
- Should technology adapt to the law or should the law adapt to technology?
- Should law be embedded in technology?
- Why do you think that techno-regulation, or legal regulation by design, have become so popular these days? Does it have something to do with the self-enforcing character of techno-regulation?
- What happens when we substitute legal constraints for technological constraints? What concerns are raised? How is design theory implicated in this context?
- Are existing regulatory systems and ethical frameworks inadequate to provide effective, meaningful and timely oversight of the current and future generations of emerging technologies?

- Are our traditional government oversight systems mired in stagnation, ossification and bureaucratic inertia, and seriously and increasingly lagging behind new technologies?

Week 1 assignment (minimum one page, be prepared to discuss and present your paper to the group):

- Select one piece of legislation relating to your personal research interests. Interpret the piece of legislation into as simple, concise and accessible a form as possible. Identify any ambiguities, grey areas, loopholes, conflicts or overlaps with other legislation or unexpected consequences. In other words, how, if at all, does the legal instrument fail to adequately serve the social function it was designed to serve? Speculate on how your piece of legislation could be re-written and what implications this might have for your area of research.
- Explain the key insights that you have obtained from the course this week as relevant to your research project.

Jan 31 (10-12): Group presentations (Liane Colonna)

Be prepared to present your paper to the group

FEB 3 (10-12): The law and artificial intelligence: Can't a robot just write my dissertation? (Liane Colonna)

Reading:

- Ryan Whalen, *Defining Legal Technology and its Implications*, International Journal of Law and Information Technology 1 (2022).
- Ugo Pagallo, Massimo Durante, *The Pros and Cons of Legal Automation and Its Governance*, 7 European Journal of Risk Regulation 323 (2016).
- Peter Wahlgren, *From Lex Scripta to Law 4.0 On Legislation of the Future*, Scandinavian Studies in Law volume 65: 50 years of Law and IT 159–174 (2018).
- Lawrence B. Solum, *Legal Personhood for Artificial Intelligences*, 70 North Carolina Law Review 1231 (1992).

Optional reading:

- Simon Deakin, Christopher Markou, *Evolutionary interpretation: law and machine learning*, <https://journalcrl.org/crcl/article/view/11/11>

Optional podcasts:

- A.I. and Stochastic Parrots FACTUALLY with Emily Bender and Timnit Gebru, <https://www.youtube.com/watch?v=jAHRbFetqII>
- Max Tegmark, Sommarprat <https://sverigesradio.se/avsnitt/max-tegmark-sommarprat-2023> (Swedish!)
- Ted Talk, Nick Bostrom, What happens when our computers get smarter than we are?
https://www.ted.com/talks/nick_bostrom_what_happens_when_our_computers_get_smarter_than_we_are/discussion

Discussion questions based on reading:

Ryan Whalen, *Defining Legal Technology and its Implications*, International Journal of Law and Information Technology 1 (2022).

- How does Whalen define legal technology?
- How does Gowder categorize legal technologies?
- What is the concept of technological 'affordances'?
- What are generic legal technologies?
- What is shallow legal tech?
- What is deep legal tech?
- Whalen talks about "reactive legal technology" and gives an example of one such technology. What does he say?
- How is Whalen critical of the concept of technological determinism?
- What are the implications that arise from the adoption of new legal technologies?

Peter Wahlgren, From Lex Scripta to Law 4.0 On Legislation of the Future, Scandinavian Studies in Law volume 65: 50 years of Law and IT (November 2018), 159–174.

- How does Wahlgren describe Law 1.0, 2.0, 3.0 and 4.0?
- Wahlgren contends that as AI becomes increasingly capable of embodying legal norms, it is necessary to ensure that this type of “algorithmic law” is itself subjected to regulation. Do you agree? If so, how should this be accomplished?

Ugo Pagallo, Massimo Durante, *The Pros and Cons of Legal Automation and Its Governance*, 7 European Journal of Risk Regulation 323 (2016).

- What is legal automation?
- What are some of the pros of legal automation?
- What are legal ontologies?
- What are the cons of legal automation?
- What is techno-regulation?
- The Article refers to Chris Reed and technological neutrality. What does it discuss?
- What is the difference between plain and hard cases? What is the relevance to legal automation?
- Overall, what kind of governance issues do the authors suggest arise because of autonomous systems?

Lawrence B. Solum, *Legal Personhood for Artificial Intelligences*, 70 North Carolina Law Review 1231 (1992).

- Solum asked whether an AI could be capable of performing a trustee's duties. What objections does he raise? What did he conclude? Do you agree with him?
- Solum asked whether an AI should have constitutional rights? What objections does he raise? Do you agree with him?

General questions for discussion:

- How does the development of AI, actual or projected, affect the law, its academic study or its practice?
- Can an expert system replicate the functions of judges, whether by mimicking their decision-making process or by a new and better method?
- Do you think that legal technology has the potential to make the law more efficient and improve access to justice?
- How can one adequately represent to a computer legal problem-solving strategies as well as legal concepts, if at all?
- Is it possible to automate all forms of legal reasoning? If not, where are the limits?
- What is the liability of those responsible for designing, developing, and releasing software and hardware if something goes wrong?

- Should computers have legal rights?

FEB 4 (10-12): The quest for law/IT law problem solving

Week 2 assignment (minimum one page, for discussion at tutorial):

Choose one of the following questions;

1. How does automation of information processing affect the area of law that you are studying, if at all?
2. Explain the key insights that you have obtained from the course this week as relevant to your research project.

FEB 7 (13-15): Group seminar (Liane Colonna)

(practical use of ICT to support doctoral students)

FEB 13 (13-15): Developing legal research skills and methodologies: expanding the paradigm through the use of technology (Liane Colonna)

Reading:

- Andras Jakab, *Seven Role Models of Legal Scholars*, 12 German L.J. 757 (2011).
- Chris Dent, *A Law Student-Oriented Taxonomy for Research in Law*, 48 Victoria University of Wellington Law Review 371 (2017).
- Ben Green and Salomé Viljoen. 2020. *Algorithmic Realism: Expanding the Boundaries of Algorithmic Thought*. In Proceedings of the 2020 Conference on Fairness, Accountability, and Transparency (FAT* '20). Association for Computing Machinery, New York, NY, USA, 19–31.
- Lachlan Urquhart, Tom Rodden, *New Directions in Information Technology Law: Learning from Human–Computer Interaction*, 31 International Review of Law, Computers & Technology 150 (2017).
- Peter Seipel, *Nordic School of Proactive Law Conference, June 2005 Closing Comments*, <https://www.scandinavianlaw.se/pdf/49-21.pdf>.

Andras Jakab, *Seven Role Models of Legal Scholars*, 12 German L.J. 757 (2011).

- Do you agree with Jakab's categorizations? Which model(s) do you represent, if any, and why?

Chris Dent, *A Law Student-Oriented Taxonomy for Research in Law*, 48 Victoria University of Wellington Law Review 371 (2017).

- What are the three broad forms of legal research methods that Dent lists? How does he define them? Do you agree?
- The author states that "law is exceptional" and that our methods are not absolute. Do you agree? Do you agree that there is an "interplay" between methods? What happens when a doctrinalist refers to a non-legal source?
- The author makes a distinction between "approaches" and "purposes" of legal research. What are some of the approaches she mentions?
- What do you need to ask yourself when you consider the purpose of your research? What two purposes of research are described in the article?

Ben Green and Salomé Viljoen. 2020. *Algorithmic Realism: Expanding the Boundaries of Algorithmic Thought*. In Proceedings of the 2020 Conference on Fairness, Accountability, and Transparency (FAT* '20). Association for Computing Machinery, New York, NY, USA, 19–31

- What steps are necessary for computer scientists to responsibly navigate the effects of AI?
- What are the positives and negatives of formalism?

- The authors are critical of the concept of “algorithmic fairness”? What do they say? Do you agree?
- What is algorithmic realism?

Lachlan Urquhart, Tom Rodden, *New Directions in Information Technology Law: Learning from Human–Computer Interaction*, 31 *International Review of Law, Computers & Technology* 150 (2017).

- How has regulation as a concept has broadened?
- How does design “fit” into regulation?
- What can approaches/methods in Human Computer Interaction offer to law?

Peter Seipel, *Nordic School of Proactive Law Conference, June 2005 Closing Comments*, <https://www.scandinavianlaw.se/pdf/49-21.pdf>

- What is proactive law?

Optional reading:

R. Van Gestel, H.-W. Micklitz and M. Poiars Maduro, *Methodology in the New Legal World*, EUI Working Papers (2012).

- The authors contend methodology and legal theory have a complex relationship. Why is this so? Do you agree?
- Why do we need methodology in legal research?
- Why do we need more or other legal methods than in the past and what methodologies are available for law in a globalized world?
- Why is there resistance against making our implicit legal methods more explicit and what are the pros and cons of methodological innovation in scholarly legal research?
- What is the debate on the scientific nature of legal scholarship all about and why is it relevant to the topic of methodology?
- Why do the authors contend that law is a discipline in transition?

M. Van Hoecke, *Legal doctrine. Which Method(s) for What Kind of Discipline*, in: M. Van Hoecke (ed.), *Methodologies of Legal Research*, European Academy of Legal Theory Series, Hart Publishing (2011) 1-18.

- Should legal doctrine become an empirical social science?
- Which is the main goal of legal doctrine?

Julie Graves Krishnaswami, *Strategies for Seeing the Big Picture in Legal Research*, 25 *Perspectives: Teaching Legal Research & Writing* 15 (2016).

Questions:

- What is the nature and meaning of ‘legal research’?
- How is technology changing the nature of legal research?
- How do you think digitalization has impacted law and, in particular, our understanding of hierarchy?

- What methodologies are most effective in achieving the aims of legal research?
- What is the relationship between theory and method in legal research?
- What are the different types of research and their basic characteristics?
- What is the significance of a literature review?
- What are the different steps involved in a research process?
- What are your motivations for conducting legal research?
- What are the advantages and disadvantages of conducting doctrinal and non-doctrinal research?
- What are the benefits and disadvantages to the “law and...” subjects?

Week 3 assignment (minimum one page, for discussion at tutorial):

Choose one of the following questions;

- Explain whether you will conduct doctrinal or non-doctrinal research. Motivate your response.
- Explain the key insights that you have obtained from the course this week as relevant to your research project.

FEB 14 (13-15): Seminar (Liane Colonna)

Module 4: GRiM Winter School

February 20-24

(given in cooperation with the master's program in legal theory at Goethe University Frankfurt)

	Monday FEB 17	Tuesday FEB 18	Wednesday FEB 19	Thursday FEB 20	Friday FEB 21
10:00 – 12:00	Emerging and disruptive technologies and the evolution of law (Associate Professor Liane Colonna, Stockholm)	Regulating emerging technologies (Associate Professor Stanley Greenstein)	Outer Space Law and the AI revolution (Professor Ugo Pagallo, University of Turin)	Katja de Vries	Liane Colonna GDPR for researchers
12:00 – 13:00	Lunch	Lunch	Lunch	Lunch	Lunch
13:00 – 15:00	Cyril Holm Law Liberty Leviathan: Individual Autonomy in an Age of Artificial Intelligence and Existential Risk	The Politics of Data in EU Law (Professor Ugo Pagallo, University of Turin)	Big data, competition law aspects Björn Lundqvist	Liane Colonna Visualization of law	Semantic representation of legal information (Professor Peter Wahlgren)

Final assignment (max. 5000 words in English):

- Explain the central legal method applied in your dissertation (max. 5000 words in English); or
- Explain the key insights that you have obtained from the course as relevant to you

Due by March 7