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THE ISRAEL ACADEMY OF SCIENCES AND HUMANITIES



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Digitization and Democracy

Joint Symposium by the German National Academy of Sciences Leopoldina,
the Israel Academy of Sciences and Humanities and the U.S. National Academy of Sciences

22 – 23 June 2021

Virtual Symposium via Zoom

DEMOCRACY



Organizing Committee

Prof. Michael Birnhack
Tel Aviv University, Israel

Prof. Johannes Buchmann
TU Darmstadt, Germany, and Member of the Leopoldina

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Impressum

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Content

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Rationale

Digitization is an integral part of democracy today. This is particularly evident in election campaigns, political initiatives and societal debates that are increasingly being conducted via social media. The COVID-19 pandemic and related public measures for social distancing have further intensified this trend towards digitization. The virtual space offers new opportunities for democratic participation, but at the same time, there is rising concern for its place and influence in politics and society. Fake news, hate speech and conspiracy theories are able to sway political opinions and the results of elections, and the power of transnational social networks and platforms is also the subject of many recent public debates.

The Israel Academy of Sciences and Humanities, the U.S. National Academy of Sciences, and the German National Academy of Sciences Leopoldina are organizing the webinar *Digitization and Democracy* to discuss associated risks, policy options and trends from a scientific point of view. This includes content moderation as well as the potential of digitization for enhancing democracies. Renowned speakers from Germany, Israel and the United States will discuss the topic over four virtual sessions, in an interdisciplinary manner.

Program

Virtual event via Zoom

Tuesday, 22 June 2021

Session 1

Input Statements, Followed by Discussion

09:00 Washington D.C. · 15:00 Berlin · 16:00 Jerusalem

Digitization and Democracy: Where Do We Stand?

Professor Niva Elkin-Koren
Tel Aviv University, Israel

Professor Shafi Goldwasser
UC Berkeley, USA, and Member of the Israel Academy and the National Academy of Sciences

Professor Lisa Herzog
Groningen University, The Netherlands

Moderator:

Jennifer Sarah Boone
Freelance Media Journalist, Germany

Session 2

Input Statements, Followed by Discussion

11:00 Washington D.C. · 17:00 Berlin · 18:00 Jerusalem

Content Moderation

Professor Jamal Greene
Columbia University, USA

Professor Gerhard Weikum
Max Planck Institute for Informatics, Germany, and Member of the Leopoldina

Dr Lior Zalmanson
Tel Aviv University, Israel

Moderator:

Professor Karine Nahon
Interdisciplinary Center (IDC), Israel

Wednesday, 23 June 2021

Session 3

Input Statements, Followed by Discussion

09:00 Washington D.C. · 15:00 Berlin · 16:00 Jerusalem

New Directions: Potential for Enhancing Democracy

Professor Anat Ben-David

The Open University of Israel, Israel

Professor Andreas Hepp

Bremen University, Germany

Professor Frank Pasquale

Brooklyn Law School, USA

Moderator:

Dr Urs Gasser

Harvard University, USA

Session 4

Input Statements, Followed by Discussion

11:00 Washington D.C. · 17:00 Berlin · 18:00 Jerusalem

Democracy and Digitization: Where Do We Go From Here?

Professor Cynthia Dwork

Harvard University, USA, and Member of the National Academy of Sciences

Professor Michael Birnhack

Tel Aviv University, Israel

Professor Johannes Buchmann

TU Darmstadt, Germany, and Member of the Leopoldina

Moderator:

Jennifer Sarah Boone

Freelance Media Journalist, Germany

Resumes

(in alphabetical order)



Professor Anat BEN-DAVID

The Open University of Israel, Israel

Anat Ben-David is an Internet researcher. She is an Associate Professor in the Department of Sociology, Political Science and Communication, and co-founder of the Open Media and Information Lab at the Open University of Israel. Her research focuses on the (geo)politics and epistemology of online media, web history and web archive research. Her work specializes in developing and applying digital and computational methods for open-source social Web research.

www.openu.ac.il/en



Professor Michael BIRNHACK

Tel Aviv University, Israel

Michael Birnhack is Associate Dean for Research and Professor of Law at the Faculty of Law, Tel Aviv University, and the Director of the S. Horowitz Institute for IP. His research focuses on information technology law, especially privacy and copyright issues. Michael has co-founded Privacy Israel (2020), has been involved in numerous expert committees on various law and technology issues, such as journalists' identification, data protection law, and contact tracing in the context of Covid-19. Birnhack won the 2020 Zeltner Prize for excellence in legal research.

<https://english.tau.ac.il/>



Jennifer Sarah BOONE

Freelance Media Journalist, Germany

Jennifer Sarah Boone is a moderator, speaker and media journalist. After many years on stage as a performing artist, she started her career in 2010 as a radio news presenter at Wack Radio in Trinidad & Tobago. Back in Germany she worked as an online TV-presenter and editor in chief for Reelkandi TV while studying media management and media journalism. 2018 she hosted the morning show Swood Mornings in the United Arab Emirates. Today Jennifer is located in Hamburg and works in Online-TV, at events and in hybrid formats as moderator and presenter. She is very passionate about innovation and technology and focuses especially on digitization and the benefits that technological change can bring to society.



Professor Johannes BUCHMANN

Professor emeritus at Technische Universität Darmstadt, Germany

Johannes Buchmann is a computer scientist, mathematician, and physicist. Until his retirement in 2019, he was a Professor of Computer Science and Mathematics at Technische Universität Darmstadt. His research area is cybersecurity and privacy. He is a member of the German National Academy of Sciences Leopoldina and several other science academies. He also received prestigious awards such as the Leibniz Prize of the German Research Foundation.

www.tu-darmstadt.de



Professor Cynthia DWORK

Harvard University, USA

Cynthia Dwork, Gordon McKay Professor of Computer Science at the Harvard Paulson School of Engineering, Radcliffe Alumnae Professor at the Radcliffe Institute for Advanced Study, and Affiliated Faculty at Harvard Law School and Harvard Department of Statistics, uses theoretical computer science to place societal problems on a firm mathematical foundation. Dwork's earliest work established the pillars on which every fault-tolerant system has been built for decades. Her innovations have modernized cryptography to the ungoverned interactions of the internet and the era of quantum computing, and her invention of Differential Privacy has revolutionized privacy-preserving statistical data analysis. In 2012 she launched the theoretical investigation of algorithmic fairness. The winner of numerous awards, Dwork is a member of the NAS, the NAE, the American Academy of Arts and Sciences, and the American Philosophical Society.

www.harvard.edu



Professor Niva ELKIN-KOREN

Tel Aviv University, Israel

Niva Elkin-Koren is a Professor of Law at Tel-Aviv University Faculty of Law and a Faculty Associate at the Berkman Klein Center for Internet & Society at Harvard University. She is a former Dean of University of Haifa Faculty of Law, and the founding director of the Center for Cyber, Law and Policy (CCLP) and the Haifa Center for Law & Technology (HCLT). She is the Chair of the Scientific Advisory Council of the Alexander von Humboldt Institute for Internet and Society in Berlin, a member of the Executive Committee of the Association for the Advancement of Teaching and Research in Intellectual Property (ATRIP), and a board member of the MIPLC Scientific Advisory Board at the Munich IP Law Center at Max Planck Institute for Innovation and Competition.

She studies the intersection of law, computer science and data science. She has written extensively on content moderation by social media platforms, governance of AI, and governance by AI.

<https://english.tau.ac.il/>



Dr Urs GASSER

Harvard University, USA

Urs Gasser is the Executive Director of the Berkman Klein Center for Internet & Society at Harvard University and a Professor of Practice at Harvard Law School. His research and teaching activities focus on information law, policy, and society issues and the changing role of academia in the digitally networked age. His research projects – several involving the Global Network of Internet & Society Centers, which he helped to incubate – focus on the governance of rapidly evolving technologies such as Cloud Computing, the Internet of Things, Augmented Reality, and Artificial Intelligence, with a particular interest in privacy and security issues and the broader implications of these technologies, including questions of agency, autonomy, and trust.

www.harvard.edu

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Professor Shafi Goldwasser

UC Berkeley, USA

Shafi Goldwasser is Director of Simons Institute for the Theory of Computing and is a professor at UC Berkeley (Electrical Engineering and Computer Sciences, EECS), MIT (EECS) and Weizmann Institute (Computer Science, Applied Math). Goldwasser holds B.S. Applied Mathematics, Carnegie Mellon University (1979), and M.S. (1981) and Ph.D. (1984) in Computer Science, UC Berkeley.

Goldwasser's discoveries include the introduction of probabilistic encryption, interactive zero knowledge protocols, elliptic curve primality testings, hardness of approximation proofs for combinatorial problems, and combinatorial property testing.

Goldwasser received the ACM Turing Award (2012), Gödel Prize (1993, 2001), ACM Hopper Award (1996), RSA Award in Mathematics (1998), ACM Athena Award (2008), Franklin Medal (2010), IEEE Piore Award (2011), Simons Foundation Investigator Award (2012), BBVA Foundation Frontiers of Knowledge Award (2018), and L'Oréal-UNESCO For Women in Science Award (2021). Goldwasser is a member of the NAS, NAE, AAAS, Russian and Israeli Academies of Science, and London Royal Mathematical Society. Goldwasser holds honorary degrees from many universities.

www.simons.berkeley.edu



Professor Jamal GREENE

Columbia University, USA

Jamal Greene is the Dwight Professor of Law at Columbia Law School, where he teaches courses in constitutional law, comparative constitutional law, the law of the political process, and freedom of expression. His scholarship focuses on global constitutional rights adjudication and the structure of legal and constitutional argument. Greene is also a Co-Chair of the Oversight Board, an independent body that reaches binding decisions on content moderation appeals from Facebook and Instagram. He is the author of numerous articles and book chapters and is a frequent media commentator on constitutional law and the Supreme Court. Greene served as a law clerk to the Hon. Guido Calabresi on the U.S. Court of Appeals for the Second Circuit and for the Hon. John Paul Stevens on the U.S. Supreme Court. He earned his J.D. from Yale Law School and his A.B. from Harvard College.

www.columbia.edu



Professor Andreas HEPP

Bremen University, Germany

Andreas Hepp is Professor of Media and Communications and Head of ZeMKI, Centre for Media, Communication and Information Research, University of Bremen, Germany. He was Visiting Researcher and Professor at leading institutions such as the London School of Economics and Political Science, Goldsmiths University of London, Université Paris II Panthéon ASSAS, Stanford University and others. He is the author of 12 monographs including “The Mediated Construction of Reality” (with Nick Couldry, 2017), “Transcultural Communication” (2015) and “Cultures of Mediatization” (2013). His latest book is “Deep Mediatization” (2020).

www.uni-bremen.de/en



Professor Lisa HERZOG

Groningen University, The Netherlands

Lisa Herzog is Professor of Political Philosophy at the Faculty of Philosophy and the Center for Philosophy, Politics and Economics of the University of Groningen. She has worked at, or visited, the universities of St. Gallen (CH), Leuven (BE), Frankfurt/Main (D), Utrecht (NL), and Stanford (US). She was a Rhodes Scholar (2007–2011), and in 2019, she received the Tractatus-Preis and the German Award for Philosophy and Social Ethics. In 2021 she was awarded the Ammodo Science Award. Lisa Herzog has published on the philosophical dimensions of markets (both historically and systemically), liberalism and social justice, ethics in organizations and the future of work. The current focus of her work are workplace democracy, professional ethics, and the role of knowledge in democracies.

www.rug.nl



Professor Karine NAHON

Interdisciplinary Center (IDC), Israel

Karine Nahon is an Associate Professor of Information Science in the Lauder School of Government and Ofer School of Communications at the Interdisciplinary Center at Herzliya (IDC) in Israel, the elected president of the Israel Internet Association (ISOC-IL), chairwoman of the national sub-committee of Ethics, Regulation and Artificial Intelligence, and an Affiliated Associate Professor in the Information School at University of Washington. She is the author of the awards-winning book *Going Viral 2013*, and was named on TheMarker’s list of 100 most influential people in Israel and on Forbes’ list of 50 Most Influential Women in Israel.

Nahon is a prominent voice in the area of politics of information and the way technology shapes and is being shaped by democracy and society. Previously, she held a tenured position at the Information School at University of Washington, directed the Virality of Information (retroV) research group, and directed the Center for Information & Society at University of Washington.

www.idc.ac.il/en



Professor Frank PASQUALE

Brooklyn Law School, USA

Frank Pasquale is an expert on the law of AI, algorithms, and machine learning. He is a Professor of Law at Brooklyn Law School, a Visiting Scholar at the AI Now Institute, an Affiliate Fellow at Yale University's Information Society Project, and a member of the American Law Institute. He is co-editor-in-chief of the *Journal of Cross-Disciplinary Research in Computational Law* (CRCL), based in the Netherlands, and a member of an Australian Research Council (ARC) Centre of Excellence on Automated Decision-Making & Society (ADM+S). His book *The Black Box Society: The Secret Algorithms That Control Money and Information* (Harvard University Press 2015) has been recognized as a landmark study on the law and political economy of information. His *New Laws of Robotics: Defending Human Expertise in the Age of AI* (Harvard University Press 2020) develops a new political economy of automation, in which human capacities are the irreplaceable center of an inclusive economy.

www.brooklaw.edu



Professor Shimon ULLMAN

Weizmann Institute of Science, Israel

Shimon Ullman is the Samy and Ruth Cohn Professor of Computer Science at the Weizmann Institute of Science. Previously, he was a Professor at the Brain and Cognitive Science at MIT. His areas of research combine computer and human vision, human cognition, and brain modeling. He is a recipient of the 2008 David. E. Rumelhart Prize in human cognition, the 2014 Emet Prize for Art, Science and Culture, and the 2015 Israel Prize in Computer Science. He is a member of the Israeli Academy of Sciences and Humanities, and the American Academy of Arts and Sciences.

www.weizmann.ac.il



Professor Gerhard WEIKUM

Max Planck Institute for Informatics, Germany

Gerhard Weikum is a computer scientist, serving as a scientific director at the Max Planck Institute for Informatics in Saarbrücken, Germany, since 2003. His research spans scalable systems for data management and analysis, the integration of unstructured text and structured data, and the automatic construction of large knowledge bases from web and text sources. This kind of “machine knowledge” has become a major asset of search engines and other applications. Weikum is one of the creators of the YAGO knowledge base which was recognized by the WWW Test-of-Time Award.

Weikum is an ACM Fellow and elected member of various academies, and he served on the German Council of Science and Humanities. He received an ERC Synergy Grant on Privacy, Accountability, Compliance and Trust, and the ACM SIGMOD Edgar F. Codd Innovations Award for “pioneering work on the automatic construction of large knowledge bases”.

www.mpi-inf.mpg.de/home/



Dr Lior ZALMANSON

Tel Aviv University, Israel

Lior Zalmanson is a senior lecturer at the Technology and Information Management Program, Collier School of Management, Tel Aviv University.

His research interests include social media, internet business models, sharing economy, algorithmic management, and the future of work. His research has been published in leading journals such as the Academy of Management Journal and MIS Quarterly and won awards and grants from Fulbright Foundation, Dan David Prize, Grant for the Web, Google, Marketing Science Institute, Social Informatics SIG, among others. His studies were covered in The Times, Independent, PBS, Fast Company, including numerous mentions in the Israeli media. In 2016 he was appointed as a research fellow at the Metropolitan Museum Media Lab. Lior is also the head of the digital forum for the Israeli chapter of the International Council of Museums (ICOM). He is the founder of the Print Screen Festival, Israel's digital culture festival, which connects internet researchers, activists, and artists. Furthermore, he is a grant and award-winning digital artist, playwright, and screenwriter in his parallel life. His recent film (about the Bystander Effect) received its debut at the 2021 Tribeca Film Festival.

<https://english.tau.ac.il/>

Scientific Committee



Professor Michael BIRNHACK

Tel Aviv University, Israel

Michael Birnhack is Associate Dean for Research and Professor of Law at the Faculty of Law, Tel Aviv University, and the Director of the S. Horowitz Institute for IP. His research focuses on information technology law, especially privacy and copyright issues. Michael has co-founded Privacy Israel (2020), has been involved in numerous expert committees on various law and technology issues, such as journalists' identification, data protection law, and contact tracing in the context of Covid-19. Birnhack won the 2020 Zeltner Prize for excellence in legal research.

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www.tu-darmstadt.de



Professor Martha MINOW

Harvard University, USA

Martha Minow is the 300th Anniversary University Professor at Harvard University where she has taught at Harvard Law School since 1981, where she served as dean from 2009-2017. She teaches about constitutional law; fairness and privacy in the digital age; freedom of speech; international criminal justice; law and education; and law, justice, and design. Author of many books and articles and an expert in human rights, constitutional law, and advocacy for members of racial and religious minorities and for women, children, and persons with disabilities, she also writes and teaches about media policy, privatization, technology and ethics, military justice, and ethnic and religious conflict.

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Professor Shimon ULLMAN

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Shimon Ullman is the Samy and Ruth Cohn Professor of Computer Science at the Weizmann Institute of Science. Previously, he was a Professor at the Brain and Cognitive Science at MIT. His areas of research combine computer and human vision, human cognition, and brain modeling. He is a recipient of the 2008 David. E. Rumelhart Prize in human cognition, the 2014 Emet Prize for Art, Science and Culture, and the 2015 Israel Prize in Computer Science. He is a member of the Israeli Academy of Sciences and Humanities, and the American Academy of Arts and Sciences.

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Mission Statements of the Organizers

The **Israel Academy of Sciences and Humanities** is the preeminent scientific institution in Israel. It was established by law in 1961, and acts as a national focal point for Israeli scholarship in all branches of the sciences, social sciences, and humanities. The Academy comprises 132 of Israel's most distinguished scientists and scholars who operate in two divisions—the Sciences Division and the Humanities Division. It is tasked with promoting Israeli scientific excellence; advising the government on scientific matters of national interest; publishing scholarly research of lasting merit; and maintaining active contact with the broader international scientific and scholarly community.

www.academy.ac.il

The **Leopoldina** originated in 1652 as a classical scholarly society and now has 1,600 members from almost all branches of science. In 2008, the Leopoldina was appointed as the German National Academy of Sciences and, in this capacity, was invested with two major objectives: representing the German scientific community internationally, and providing policymakers and the public with science-based advice.

The Leopoldina champions the freedom and appreciation of science on both the national and the international level. It is her role to identify and analyze scientific issues of social importance. The Leopoldina presents its policy recommendations in a scientifically qualified, independent, transparent and prospective manner, ever mindful of the standards and consequences of science.

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The **National Academy of Sciences (NAS)** is a private, non-profit society of distinguished scholars. Established by an Act of Congress, signed by President Abraham Lincoln in 1863, the NAS is charged with providing independent, objective advice to the nation on matters related to science and technology. Scientists are elected by their peers to membership in the NAS for outstanding contributions to research. The NAS is committed to furthering science in America, and its members are active contributors to the international scientific community. Approximately 500 current and deceased members of the NAS have won Nobel Prizes, and the Proceedings of the National Academy of Sciences, founded in 1914, is today one of the premier international journals publishing the results of original research.

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