Lunch Debate in cooperation with TU Delft

Robotics and Artificial Intelligence: the case for Human Control and European Values

Hosted by Caroline Nagtegaal MEP

Co-hosted by Michał Boni MEP

Wednesday, 28 November 2018 | 12:30 – 15:00

MEP Salon European Parliament, Brussels

Description

Now that the take up of artificial intelligence and robotics are accelerating in our societies human and societal control of these technologies will be essential from a humanity, human dignity and rule of law perspective.

How can human beings remain the masters over the Artificial Intelligence and the robotics by which they surround themselves in their daily lives? There are examples galore of the undesirable autonomy of systems, such as used in social media, mobility and other domains, but also thriving communities of promising start-up companies and eco-systems.

How will humans teach machines the right things, how do human stay in the loop of artificial intelligence and robotics? “Digitally native” new generations of researchers will guide Europe and its citizens via their new research paradigms to the right impact for Europe’s society.

What would be required from European policy and programmes to generate this impact?

Discussion will take place on basis of 5 key issues:

1. Human and societal control and European Values in the light of AI and robotics

2. Trends in artificial Intelligence and robotics itself

3. Machine learning and keeping humans in-the-loop

4. Innovation, start-ups and AI and robotics eco-systems

5. Human control and ethics

6. Industry & Defense

Speakers

Host:

Caroline Nagtegaal-van Doorn, *Member of the European Parliament MEP*

Co-host:

Michał Boni, *Member of the European Parliament MEP*

Moderator:

Prof. Tim van der Hagen, *President and Rector Magnificus Executive Board of the TU Delft*

Speakers:

Roberto Viola, *Director General for Communications Networks, Content and Technology (CNECT)*

Jens Kober, *Assistant Professor, Cognitive Robotics department (CoR), Delft University of Technology (TU Delft)*

David Abbink, *Full Professor, Cognitive Robotics department (CoR), Delft University of Technology (TU Delft)*

Aimee Van Wynsberghe, *European Commission High Level Expert Group on AI, Rapporteur for Values and Principles working group*

Host and Speakers

Caroline Nagtegaal-van Doorn, *Member of the European Parliament MEP*

Caroline Nagtegaal MEP (1980) was elected in the European Parliament since November 2017 on behalf of the Dutch liberal party VVD. The VVD is part of the ALDE Group, Alliance of Liberals and Democrats for Europe.

As a member of the Committee on Economic and Monetary Affairs (ECON) she is involved in subjects as macro-economics, financial regulations, EMU, FinTech, Bitcoin and crowdfunding. She focusses on improving the resilience of the financial markets and enhancing growth potential of European SMEs, for example by developing an EU framework for crowdfunding. She is also working on a new budgetary tool that promotes structural reforms in the Member States.

As substitute member of the Committee on Industry, Research and Energy (ITRE) she deals with energy, cyber security, space, quantum technology and robotics. She took care of the new cyber security legislation. She is also committed to Horizon Europe, a programme dedicated to excellence and innovation. At this moment, she is shadow rapporteur on the Space Programme.

Besides that, she is vice-president of the delegation on relations of the European Parliament with India and co-chair of the Innovation Group.

Prior to her election to the European Parliament, Ms. Nagtegaal worked at Royal Schiphol Group and Port of Rotterdam Authority. She dealt with public & external affairs for those companies.

Michał Boni, *Member of the European Parliament MEP*

A graduate of the University of Warsaw, where for many years he lectured in the Department of Polish Culture History. Involved in "Solidarity" underground movement since 1980, since 1987 its leader on University of Warsaw and from march 1983 till 1989 editor in chief of underground weekly newspaper "Wola". Since 1989 a member of the national authorities of "Solidarity", in 1990 – chairman of the "Mazowsze" Region Managing Board. In 1991, the Minister of Labour and Social Policy, from 1992 to 1993 he held the position of the Secretary of State in the same ministry, where he was responsible, inter alia, for labor market policy. Member of Parliament of the first tenure. From 1998 to 2001, the chief advisor to the Minister of Labour and Social Policy. Key expert cooperating in shaping of the National Development Plan and the National Action Plan for 2007-2013.

Since January 2008, the Secretary of State in the Prime Minister's Office. In 2009 appointed to the office of the Minister – a member of the Council of Ministers and Chairman of the Standing Committee

of the Council of Ministers. Since 2008 he was the Head of Strategic Advisors to the Prime Minister. The Minister of Administration and Digitization of Poland from 2011 till 2013. The host of the Congress of Freedom on the Internet, the organizer of the consultation on digital privacy and data protection, creator of the Governmental Operational Programme Digital Poland 2014-2020. Since 2014 the Member of the European Parliament active in LIBE and ITRE Committees. The member of Delegation to the Euronest Parliamentary Assembly and the Vice-chair of the Delegation to the EU-Moldova Parliamentary Cooperation Committee. The co-founder of the Intergroup Digital Agenda for Europe.

Roberto Viola, *Director General for Communications Networks, Content and Technology (CNECT)*

Roberto Viola is Director General of DG CONNECT (Directorate General of Communication, Networks, Content and Technology) at the European Commission.

He was the Deputy Director-General of DG CONNECT, European Commission from 2012 to 2015.

Roberto Viola served as Chairman of the European Radio Spectrum Policy group (RSPG) from 2012 to 2013, as Deputy Chairman in 2011 and Chairman in 2010. He was a member of the BEREC Board (Body of European Telecom Regulators), and Chairman of the European Regulatory Group (ERG) in 2007.

He held the position of Secretary General in charge of managing AGCOM, from 2005 to 2012. Prior to this, he served as Director of Regulation Department and Technical Director in AGCOM from 1999 to 2004.

From 1985-1999 he served in various positions including as Head of Telecommunication and Broadcasting Satellite Services at the European Space Agency (ESA).

Roberto Viola holds a Doctorate in Electronic Engineering and a Masters in Business Administration (MBA).

Tim van der Hagen, *President and Rector Magnificus Executive Board of the TU Delft*

Tim van der Hagen (born 1959) has been President of Delft University of Technology (TU Delft) since May 2016 and also Rector Magnificus since January 2018. He studied Applied Physics at Eindhoven University of Technology. After taking his doctorate in 1989 at TU Delft, he stayed on at the Reactor Institute Delft, which conducts radiation-related research into energy, materials and health. He was director of the Institute between 2005 and 2012. In 1999 he was appointed professor of Reactor Physics. Between September 2010 and May 2016 he was Dean of the Applied Sciences faculty at TU Delft.

During this latter period Tim was one of the instigators of the Delft Plan, published in 2015, which set out TU Delft's vision on how the Netherlands could play a leading role in the European energy market. In 2015, he was also the co-author of an advisory report 'A prosperous nation without CO2: Towards a sustainable energy supply by 2050' produced by the Dutch Council for the Environment and Infrastructure (Rli).

Van der Hagen has broad managerial experience in the field of energy, including as a former member of the Dutch Energy Council and the Top team of the Top Sector Energy in the Netherlands. Both bodies advise the government on the implementation of energy policy. In addition to this he is a member of the national Advisory Council for Science, Technology and Innovation (AWTI) which was established by the Dutch government to advise the government and parliament on policy in the areas of scientific research, technological development and innovation.

Furthermore, Tim is a Board member of the Royal Netherlands Society of Engineers (KIvI), a member of the Board of the Netherlands Energy Research Alliance (NERA) and of GROW (Growth through Research, Development and Demonstration in Offshore Wind), member of the Supervisory Board of Central Organisation for Radioactive Waste (COVRA) and Energy Research Centre of the Netherlands (ECN), the Netherlands Organisation for Applied Scientific Research (TNO) Strategic Advisory Board on Energy and the Supervisory Board of Advanced Dutch Energy Materials (ADEM). He also holds a chair in the General board of the 4TU Federation, the Association of Universities in the Netherlands (VSNU) and the Steering Committee of Leiden-Delft-Erasmus Alliance (LDE).

Between May 2014 and May 2016 he was Chair of the Supervisory Board of HollandPTC (Holland Particle Therapy Centre) jointly built on the Delft campus by the Erasmus and Leiden University Medical Centres and the TU Delft .

In May 2016, Tim van der Hagen was appointed a Knight of the Order of the Netherlands Lion. In his free time, he plays in a pop cover band and he enjoys going to jazz concerts, the theatre and museums.

Jens Kober, *Assistant Professor, Cognitive Robotics department, TU Delft*

Jens Kober is an assistant professor at the Cognitive Robotics department, TU Delft, The Netherlands. He worked as a postdoctoral scholar jointly at the CoR-Lab, Bielefeld University, Germany and at the Honda Research Institute Europe, Germany.

He received his PhD in 2012 from Technische Universität Darmstadt, Germany.

From 2007 to 2012 he was working at the Empirical Inference department, MPI for Intelligent Systems, Germany. Jens is the recipient of the 2018 IEEE-RAS Early Academic Career Award in Robotics and Automation and the 2013 Georges Giralt PhD Award.

David Abbink, *Full Professor, Cognitive Robotics department (CoR), Delft University of Technology (TU Delft)*

David A. Abbink, PhD(1977) is a Full Professor in Haptic Human-Robot Interaction at Delft University of Technology, where he heads the Delft Haptics Lab (www.delfthapticslab.nl). He has published over 100 articles on physical human-robot interaction, shared control, human motion control, and design and evaluation of assistance systems for vehicles and remote controlled robots.

His PhD thesis (2006) on haptic support for car-following was awarded the best Ph.D. dissertation in the Netherlands, and contributed to the market release of Nissan's Distance Control Assist system. David's research on human control over intelligent vehicles and other robots has been funded by personal grants - VENI (2010) and VIDI (2015) – as well as by industry (e.g., Boeing, Nissan, Renault).

David was awarded best teacher of his department for seven years in a row, and best teacher of his Faculty twice.

Speech Abstract: How do humans stay in control over robots and artificial intelligence? This question addresses us all. Scientifically, I am interested in the question what *is* 'human control', how do we design for it, and what are the consequences of our designs?

This talk focusses on human control over *embodied* artificial intelligence – robotic tools and vehicles that can move and physically interact in their environment. A major bottleneck in the responsible introduction of robots in daily-life human-inhabited environments, is the interaction, communication and co-operation between robots and humans. How to ensure humans understand a robot's situation-dependent capabilities, intentions, and limitations - and vice versa?

This talk will illustrate different dimensions of human control with practical examples from intelligent vehicles. How we can a) make robots true extensions of our body when we need to assume direct control over them, b) make robot's interact intuitively and adaptively by *shared control* c) make robots intelligent team-mates that can effectively co-operate with us?

I will end with changing the perspective from the interaction between one human and one robot, towards the challenge of understanding how large quantities of humans (society) stay in control over large quantities of robots and AI agents.

Aimee Van Wynsberghe, *European Commission High Level Expert Group on AI, Rapporteur for Values and Principles working group*

Aimee van Wynsberghe has been working in ICT and robotics since 2004. She began her career as part of a research team working with surgical robots in Canada at CSTAR (Canadian Surgical Technologies and Advance Robotics). She is Assistant Professor in Ethics and Technology at TU Delft in the Netherlands. She is co-founder and co-director of the Foundation for Responsible Robotics, on the board of the Institute for Accountability in a Digital Age, and an advisory board member for the AI & Intelligent Automation Network. Aimee also serves as a member of the European Commission's High-Level Expert Group on AI and is a founding board member of the Netherlands AI Alliance. Aimee has been named one of the Netherlands top 400 influential women under 38 by VIVA and was named one of the 25 'women in robotics you need to know about'. She is author of the book Healthcare Robots: Ethics, Design, and Implementation and has been awarded an NWOpersonal research grant to study how we can responsibly design service robots. She has been interviewed by BBC, Quartz, Financial Times, and other International news media on the topic of ethics and robots, and is often invited to speak at International conferences and summits.

Speech Abstract: Innovations in robotics and AI present society with the promise of assisting or replacing humans in the completion of dull, dirty, and dangerous tasks. Designers and developers are tasked with focusing on how this can be done. Ethicists, on the other hand, are tasked with questioning the limits of these technologies, not to prevent them from being used, but to provide guidelines to ensure that the design, development, and use of robotics and AI happen for the benefit of societal values and not at their expense. Given the ubiquity of these technologies, and recent scandals in media headlines showing what happens without ethics, the need for ethicists in the academic and industrial space to accompany the R & D process has gained recognition and importance. Interestingly, academia faces a similar 'brain drain' as that of data analytics and AI studies in general – ethicists are being offered lucrative jobs in the industrial space. Long term funding opportunities for ethicists to engage with designers as well as training opportunities for ethicists to work as consultants and advisors are needed to ensure development of the necessary expertise and skills. A commitment to European values in the R & D of robotics and AI requires an investment in ethicists.


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