

Where are the Women?

7 November 2014

Experts to consider including in the 2015 Convention on Conventional Weapons meeting on “lethal autonomous weapons systems” or killer robots.

The following list of experts is sorted by theme: technical, ethical, legal, operational, and policy.

TECHNICAL EXPERTS (robotics and related fields)

Ms. Andra Keay, Australia

Ms. Keay is managing director at Silicon Valley Robotics, an industry group supporting the innovation and commercialization of robotics technologies. She is also founder of Robot Launchpad for startups, and cofounder of Robot Garden, a new robotics hackerspace, and a core contributor to Robohub, the global site for news and views on robotics. She obtained her MA in Human-Robot Culture at the University of Sydney in 2011, building on a background as a robot geek, STEM educator, and film-maker. Andra graduated as an ABC film, television, and radio technician in 1986 and obtained a BA in Communication from the University of Technology, Sydney in 1998.

Dr. Goldie Nejat, Canada

Dr. Nejat is the Canada Research Chair in Robots for Society, an associate professor in the Department of Mechanical Engineering at the University of Toronto, and the director of the Institute for Robotics and Mechatronics. She is also the founder and Director of the Autonomous Systems and Biomechatronics Laboratory and the recipient of Engineers Canada's 2013 Young Engineer Achievement Award. Dr. Nejat's work focuses on integrating robots into daily life for health and environmental purposes, human-robot interaction, the use of robots in emergency response, and autonomous systems. She is not known to have expressed opinions on fully autonomous weapons systems and the call for a preemptive ban.

Dr. Lucy Suchman, Canada/United Kingdom

Dr. Suchman is professor of anthropology of science and technology in the Department of Sociology at Lancaster University and co-director of Lancaster's Centre for Science Studies. She is the author of *Human-Machine Reconfigurations* (2007) and *Plans and Situated Actions: The Problem of Human-Machine Communication* (1984). In 2002, she received the Benjamin Franklin Medal in Computer and Cognitive Sciences and in 2010, the ACM SIGCHI Lifetime Research Award. Dr. Suchman is a member of the International Committee for Robot Arms Control, a co-founder of the Campaign to Stop Killer Robots.

Dr. Danica Kragic, Croatia

Dr. Kragic is a professor and vice dean at the School of Computer Science at the Royal Institute of Technology. She is also the director of the Centre for Autonomous Systems and head of the Computer Vision and Active Perception Lab. Her research focus is in robotics, computer vision, and machine learning. Dr. Kragic is one of the most prolific and prominent female roboticists in Europe. Dr. Kragic has not specifically endorsed lethal autonomous weapons systems, but has [said](#), "I am starting to be concerned that, as it sometimes happens when journalists take over and summarize what has been said, we will go from 'banning killer robots' to 'banning robots.'"

Dr. Lydia E. Kavraki, Greece

Dr. Kavraki is the Noah Harding Professor of Computer Science and Bioengineering at Rice University. Her research contributions are in physical algorithms and their applications in robotics (robot motion planning, hybrid systems, formal methods in robotics, assembly planning, micromanipulation, and flexible object manipulation). Dr. Kavraki has not yet taken a stance on autonomous weapons.

Dr. Maria Gini, Italy/United States

Dr. Gini is the Morse-Alumni Distinguished Teaching Professor of Computer Science at the University of Minnesota. Dr. Gini's focus is artificial intelligence, robotics, and intelligent agents. Dr. Gini has written about the use of autonomous reconnaissance robots. She has not publically commented on fully autonomous weapons.

Dr. Vanessa Evers, Netherlands

Dr. Evers is a professor of computer science and human media interaction at the University of Twente in the Netherlands, where she focuses on human interaction with autonomous agents. She is a member of the ACM International Human Robot Interaction Steering Committee and an associate of the Human Robot Interaction Journal. Dr. Evers has not written about nor publically commented on fully autonomous weapons. @evers_vanessa

Dr. Manuela Veloso, Portugal

Dr. Veloso is the Herbert A. Simon Professor of Computer Science at Carnegie Mellon University. Dr. Veloso's long-term research goal is the effective construction of autonomous agents where cognition, perception, and action are combined to address planning, execution, and learning tasks. Her vision is that multiple intelligent robots with different sets of complementary capabilities will provide a seamless synergy of intelligence. Dr. Veloso has not yet discussed the concept of autonomous weapons.

Dr. Daniela Rus, Romania/United States

Dr. Rus is a Professor of Electrical Engineering and Computer Science and Director of the Computer Science and Artificial Intelligence Laboratory (CSAIL) at the Massachusetts Institute of Technology. She also is the head of CSAIL's Distributed Robotics Laboratory. Dr. Rus' research focus is in distributed robotics, mobile computing and programmable matter. She has worked on projects in the sectors of transportation, security, environmental modeling, monitoring, underwater exploration, and agriculture. Dr. Rus has not written about nor publically commented on fully autonomous weapons.

Dr. Kerstin Severinson Eklundh, Sweden

Dr. Eklundh is the professor emerita in Human-Computer Interaction at CSC, KTH. Her main research interests are human-robot interaction, design of writing tools, and computer supported communication and cooperative work. She has not yet taken a stance on killer robots.

Dr. Aude Billard, Switzerland

Dr. Billard is a professor of microtechnology in the School of Engineering at the École Polytechnique Fédérale in Lausanne and an elected member of the IEEE Robotics and Automation Society. Her research is on human-robot interaction, robot ethics, and autonomous systems. Dr. Billard is a supporter of the Campaign to Stop Killer Robots and co-authored an [article](#) titled "A Survey of the Robotics Ethical Landscape."

Prof. Maggie Boden, United Kingdom

Prof. Boden, OBE, is a research professor of cognitive science in the Department of Informatics at the University of Sussex, where her work embraces the fields of artificial intelligence,

psychology, philosophy, cognitive, and computer science. She has made no statement on fully autonomous weapons.

Dr. Joanna Bryson, United Kingdom

Dr. Bryson is a reader at the University of Bath. Her primary research interest is using artificial intelligence to understand natural intelligence. She has no specific statement on autonomous weapons, but she has said, "They [robots] have to be inside our moral framework. They won't have their own moral framework. We have to make the choice so that robots are positioned within our moral framework so that they don't damage the rest of the life on the planet."

Dr. Kerstin Dautenhahn, United Kingdom

Dr. Dautenhahn is a professor of artificial intelligence in the School of Computer Science at University of Hertfordshire, where she is a coordinator of the Adaptive Systems Research Group. The main areas of her research are human-robot interaction, social robotics, socially intelligent agents and artificial life. Dr. Dautenhahn has not taken a public stance on autonomous weapons.

Dr. Amanda Sharkey, United Kingdom

Dr. Sharkey is a senior lecturer (associate professor) in the Department of Computer Science at the University of Sheffield. Her current research interests include the ethics of robot care, human-robot interaction, and swarm robotics. She is particularly interested in the relationship between robot care for older people and their human dignity. She holds a Ph.D in psycholinguistics from University of Essex, and has over 85 scientific publications.

Dr. Barbara Webb, United Kingdom

Dr. Webb is a professor of biorobotics at the University of Edinburgh's School of Informatics and a member of the academic staff of the Institute of Perception, Action and Behavior. Her focus is robotic perception and behavior control, as well as how insect behavior can be replicated. She has not written about nor publically commented on fully autonomous weapons or the call for a preemptive ban.

Dr. Ruzena Bajcsy, United States

Dr. Bajcsy has been the top female roboticist in the world since the 1970s. She is the director emerita of CITRIS (The Center for Information Technology Research in the Interest of Society) and a professor in the College of Engineering of the University of California, Berkeley. She previously created the GRASP (General Robotics, Automation, Sensing and Perception) Lab at the University of Pennsylvania. Her research focus includes artificial intelligence, biosystems and computational biology, control, intelligent systems, robotics, graphics, human-computer interaction, and computer security. Dr. Bajcsy has not written about nor expressed opinions on fully autonomous weapons systems or the call for a preemptive ban.

Dr. Cynthia Breazeal, United States

Cynthia Breazeal is an associate professor of media arts and sciences at the Massachusetts Institute of Technology. Her research focuses on developing the principles, techniques, and technologies for personal robots that are socially intelligent, interact and communicate with people in human-centric terms, work with humans as peers, and learn from people as an apprentice. She is not known to have written on autonomous weapons.

Dr. Helen Greiner, United States

Dr. Greiner is a co-founder of iRobot and currently CEO of CyPhyWorks. Greiner holds a bachelor's degree in mechanical engineering and a master's degree in computer science, both from Massachusetts Institute of Technology. She also holds an honorary doctor of engineering degree from Worcester Polytechnic Institute. She has not taken a public stance on arming autonomous weapons.

Dr. Deborah Johnson, United States

Dr. Johnson is the Anne Shirley Carter Olsson Professor of Applied Ethics in the Science, Technology, and Society Program in the School of Engineering and Applied Sciences at the University of Virginia. She is best known for her work on computer ethics and engineering ethics. Dr. Johnson's research examines the ethical, social, and policy implications of technology and engineering, especially information technology. She has written extensively on human responsibility in robotics and autonomy. She is not known to have expressed her views on autonomous weapons.

Ms. Heather Knight, United States

Ms. Knight is a Ph.D candidate at The Robotics Institute of Carnegie Mellon University. She runs the Marilyn Monrobot Labs in New York City, which creates socially intelligent robot performances and sensor-based electronic art. Her research lies primarily in the field of social robotics. She has not spoken publically about killer robots.

Dr. Maja Mataric, United States

Dr. Mataric is a professor and Chan Soon-Shiong Chair in computer science, neuroscience, and pediatrics at the University of Southern California. She is additionally the vice dean for research at the Viterbi School of Engineering, the director of the Robotics and Autonomous Systems Center (RASC), and co-director of the Robotics Research Lab. Dr. Mataric is principally interested in human robot interaction and robots that help people in medical, home, and educational settings. Dr. Mataric has not written about nor publically commented on fully autonomous weapons.

Dr. Robin Roberson Murphy, United States

Dr. Murphy is the Raytheon Professor of Computer Science and Engineering at Texas A&M University, director of the Center for Robot-Assisted Search and Rescue, and an IEEE fellow. Her research interests are artificial intelligence, human-robot interaction, and heterogeneous teams of robots. She has no public stance on fully autonomous weapons.

Dr. Rosalind W. Picard, United States

Dr. Picard is the founder and director of the Affective Computing Research Group at the Massachusetts Institute of Technology (MIT) Media Lab and co-director of the Things That Think Consortium, the largest industrial sponsorship organization at the lab. Dr. Picard holds a bachelor's degree in electrical engineering with highest honors from the Georgia Institute of Technology, and master's and doctorate degrees, both in electrical engineering and computer science, from MIT. She has discussed the concept of morality and emotion in autonomous robots, but has not spoken on a ban on autonomous weapons.

ETHICAL EXPERTS

Ms. AJung Moon, Canada

Ms. Moon is a Ph.D. candidate at the University of British Columbia studying under Drs. Elizabeth Croft and Mike Van der Loos. Her research focus is on human robot interaction, including negotiation and conflict resolution. Ms. Moon is a Vanier Scholar, co-founder of the think tank Open Roboethics Initiative, and writes the [Roboethics Info Database](#). She is a supporter of the Campaign to Stop Killer Robots and has written several blogposts in support of robot arms control. @RoboEthics

Dr. Jutta Weber, Germany

Dr. Weber is a philosopher of technology, STS scholar and professor for media studies at the University of Paderborn (Germany). Her research focuses on the sociotechnical and cultural dimensions of technosciences – especially of artificial intelligence, computer science, and robotics. She started to work on drones in 2006 when she initiated and co-authored a case study on military robots and drones as part of a European Union project on ethics and robotics (for more see www.juttaweber.eu). Dr. Weber is a member of the International Committee for Robot Arms Control, a co-founder of the Campaign to Stop Killer Robots.

Ms. Miriam Struyk, Netherlands

Ms. Struyk is program director for security and disarmament at [PAX](#) (formerly IKV Pax Christi), a Dutch peace organization working in more than 20 conflict areas on a range of humanitarian disarmament issues, including cluster munitions, nuclear weapons, explosive weapons in populated areas, toxic remnants of war, and armed drones. PAX co-founded the Stop Killer Robots campaign and Miriam Struyk has led its publication of a 2014 PAX [report](#) on fully autonomous weapons called “8 Objections to Killer Robots” as well as a short [animation film](#). PAX also initiated a sign-on declaration issued in November 2014 from religious leaders calling for a ban on these weapons.

Dr. Kate Darling, United States

Dr. Darling is a Research Specialist at the Massachusetts Institute of Technology Media Lab, a fellow at the Harvard Berkman Center for Internet and Society, an affiliate scholar at the Institute for Ethics and Emerging Technologies, and a visiting fellow at the Yale Information Society Project. Her research focus includes law and economics, robot ethics, and the law and robotics. Dr. Darling has taught at Harvard Law School and has written about the legal rights of robots. Her work indicates that she is opposed to fully autonomous weapons, but she is not known to have made a specific statement on the matter. @grok

Ms. Jody Williams, United States

Ms. Williams received the Nobel Peace Prize in 1997 for her work to ban landmines through the International Campaign to Ban Landmines, which shared the Peace Prize. In January 2006, Ms. Williams established the [Nobel Women’s Initiative](#) together with five of her sister Nobel Peace laureates. In May 2014, Williams issued a sign-on statement endorsed by more than 20 Nobel Peace laureates, expressing concern over fully autonomous weapons and endorsing the Campaign to Stop Killer Robots. See also: <http://bit.ly/JKVvBd>

LEGAL EXPERTS

Ms. Maya Brehm, Switzerland

Ms. Maya Brehm has worked as a consultant for UK-based NGO [Article 36](#), a co-founder of the Campaign to Stop Killer Robots, since 2012. She is also a researcher in weapons law at the Geneva Academy of International Humanitarian Law and Human Rights. Previously, Ms. Brehm led a research project at the UN Institute for Disarmament Research and worked as a protection delegate for the International Committee of the Red Cross. Ms. Brehm holds an MA in international relations and an LL.M in international humanitarian law. @schoggitaler @Article36

Dr. Milena Costas Trascasas, Switzerland

Dr. Costas is a Research Fellow at the Geneva Academy of International Humanitarian Law and Human Rights. Her two main research lines are the use of force by law enforcement personnel in the context of social protests and the use of drones and robots under international humanitarian law and human rights.

Ms. Bonnie Docherty, United States

Ms. Docherty is a senior researcher in the arms division at Human Rights Watch and also a lecturer on law and senior clinical instructor at Harvard Law School's International Human Rights Clinic. Docherty's 2012 "Losing Humanity" report was the first by any non-governmental organization to detail concerns over fully autonomous weapons and their compliance with the laws of war. See also: <http://bit.ly/103PV4t>

Ms. Sarah Knuckey, United States

Ms. Knuckey is an international human rights lawyer and professor who has directed the Human Rights Clinic and Institute at Columbia Law School since July 2014. Previously, she worked at the Center for Human Rights and Global Justice at New York University's School of Law. Ms. Knuckey is also a special advisor to the United Nations Special Rapporteur on extrajudicial, summary or arbitrary executions, for whom she has advised specifically on the legal and ethical issues raised by autonomous weapons systems. @SarahKnuckey

Ms. Naz K. Modirzadeh, United States

Ms. Modirzadeh is the founding director of the Harvard Law School Program on International Law and Armed Conflict (PILAC). Her scholarship and research focus on intersections between the fields of international humanitarian law, international human rights law, and Islamic law. Ms. Modirzadeh has not written explicitly on the autonomous weapons.

OPERATIONAL (MILITARY) EXPERTS

Ms. Elizabeth Quintana, United Kingdom

Ms. Quintana is the director of the Royal United Service Institute's Military Sciences Department. She also runs the Air Power and Technology programme, looking specifically at the future of air power for the UK and for NATO. The programme also explores the doctrinal, strategic, and ethical implications of emerging technologies. Ms. Quintana has lectured

specifically on the ethics of remotely piloted aerial systems. She has spoken against a ban, calling it too “preemptive”.

Dr. Missy Cummings, United States

Dr. Cummings is the head of the Humans and Autonomy Lab at Duke University and a former associate professor of aeronautics and astronautics at Massachusetts Institute of Technology. Her research focus includes autonomous vehicles, human-robot interaction, and ethics. She was one of the first female US Navy fighter pilots. Dr. Cummings is skeptical about whether fully autonomous weapons will be developed due to their inability to meet international law, including the principle of distinction, but has indicated her support for the call to preemptively ban them. @missy_cummings

Dr. Heather Roff, United States

Dr. Roff joined the International Committee on Robot Arms Control ([ICRAC](#)) in 2013. She is currently working as a visiting associate professor at the Josef Korbel School of International Studies at the University of Denver, where her research interests include international ethics and the ethics of the responsibility to protect doctrine, as well as issues relating to cyber warfare and emerging military technologies, such as lethal autonomous weapons. Dr. Roff is also a research fellow at the Eisenhower Center for Space and Defense Studies at the United States Air Force Academy. See also: <http://huff.to/1npC9Ho>

POLICY EXPERTS

Ms. Denise Garcia, Brazil

Ms. Garcia is in the Sadeleer Research Faculty and associate professor in the Department of Political Science and the International Affairs at Northeastern University in Boston. Her research, at the intersection of international law and international security, studies the development of new international norms in world politics. Ms. Garcia is a member of the International Committee for Robot Arms Control, a co-founder of the Campaign to Stop Killer Robots, and the Global South Unit for Mediation in her native Brazil.

Ms. Ray Acheson, Canada

Ms. Acheson is director of the Reaching Critical Will project of the Women's International League for Peace and Freedom ([WILPF](#)), a co-founder of the Campaign to Stop Killer Robots. WILPF is the oldest women’s peace organization in the world, turning 100 in April 2015.

Ms. Yukie Osa, Japan

Ms. Osa is the president of the Association for Aid and Relief, Japan ([AAR Japan](#)), one of the country’s largest non-governmental organizations involved in the delivery of humanitarian aid and disaster relief. She joined AAR Japan as a volunteer in 1990 and became a full-time staff member the following year. Ms. Osa has served in a number of positions for the organization, participating in emergency assistance operations and mine action and victim assistance projects. She has a Master's degree in political science from Waseda University, a Ph.D from University of Tokyo, and has been a professor at Rikkyo University Graduate School of Social Design Studies since 2009. @aarjapan

Ms. Mary Wareham, New Zealand

Ms. Wareham is the advocacy director of the arms division of Human Rights Watch and global coordinator of the Campaign to Stop Killer Robots. She was involved in the processes that created the Convention on Cluster Munitions and the Mine Ban Treaty, and has worked since to ensure their universalization and implementation. @marywareham @BanKillerRobots

Ms. Laura Boillot, United Kingdom

Ms. Boillot is project manager of Article 36 and former director of the Cluster Munition Coalition. She has presented and contributed to Article 36 papers on the need for meaningful human control over individual attacks and on the UK's government policy on autonomous weapons systems. She has established a pledge signed by more than 50 men committing not participate in all-male panel discussions on disarmament and security topics: <http://manpanels.org/>. @lauraboillot @Article36

Prof. Charli Carpenter, United States

Prof. Carpenter is a consultant to UK-based NGO [Article 36](#) and a professor in the Department of Political Science at the University of Massachusetts-Amherst, specializing in global agenda-setting, laws of war, human rights, humanitarian disarmament, and human security. In 2013, Professor Carpenter conducted the first public opinion polling on US views on fully autonomous weapons, including military views. @charlicarpenter

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