

Dr. Ming Hou

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Dr. Ming Hou is a Senior Defence Scientist and the Principal Authority Human-Technology Interactions within the Department of National Defence (DND) Canada, an Integrator of the Canadian \$1.6B Innovation for Defence Excellence and Security (IDEaS) program, and the Co-Chair of NATO Human Factors Specialist Committee. Dr. Hou is responsible for delivering technological solutions, science-based advice, and evidence-based policy recommendations on AI and Autonomy science, technology, and innovation strategies to senior decision makers within DND and the Canadian Armed Forces (CAF) as well as their national and international partner organizations. He was a Scientific Advisor to the Canadian National Centre of Expertise on Human Systems Performance (HSP) and the Canadian National Leader of HSP-Air Joint Panel under The Technical Cooperation Program (TTCP) and directed the Canadian efforts in the \$200M TTCP Autonomy Strategic Challenge International Joint Exercise “Autonomous Warriors 2018”. As the Principal Scientist, Dr. Hou led a number of CAF/DND capability development projects including the 1st Canadian Intelligent Tutoring System for Counter Improvised Explosive Device Disposable Operator Training, the 1st Command and Control Centre for the \$6B Remotely Piloted Aircraft System (RPAS) major capital acquisition project, and the 1st Human-AI Symbiosis Technology for Weapon Engagement. His influential book: “Intelligent Adaptive Systems: An Interaction-Centered Design Perspective” (two editions) has guided the development of NATO Standards for RPAS Human Systems Integration Guidance, Sense and Avoid Guidance, Human Factors Experimentation Guidance, as well as the United Nations White Paper on “Human-Machine Interfaces in Autonomous Weapon Systems: Consideration for Human Control”. Dr. Hou is the recipient of the prestigious DND Science and Technology Excellence Award in 2020 and the President’s Achievement Award of the Professional Institute of the Public Service of Canada in 2021. He has also been nominated to the Engineering Alumni Hall of Distinction at the University of Toronto and the IEEE Systems, Man, and Cybernetics Society Outstanding Service To Humanity Award in 2022. Dr. Hou is an Adjunct Professor at the University of Toronto and a Fellow of the International Institute of Cognitive Informatics and Cognitive Computing.