



Roundtable on Artificial Intelligence and Employment

Seminar Room
Ground Floor
Centre for Innovation
87 St David Street
University of Otago
Dunedin

September 26-27, 2019

INTRODUCTION

What effects will advances in Artificial Intelligence (AI) have on employment in New Zealand? This question looms large in local media discussions about AI, and increasingly preoccupies New Zealanders preparing to enter the workforce.

Public debate focuses on the likely effects of AI on human workers. AI systems threaten to eliminate some jobs altogether, and to dramatically alter the nature of others, as parts of existing jobs are automated. However, as AI systems enter the workplace, they may also have larger-scale effects on whole professions, and the function they perform in society, as well as on individual workers. To examine these effects, this workshop will consider employment related issues alongside case studies of several professions. We will hear from practising employment lawyers, academic AI and law researchers, policy experts and trade unionists. We will also hear from people working in the New Zealand AI industry, and from representatives of professions that are being disrupted by AI.

We will focus on two 'Professions' with a capital P - medicine and law - and two professions with a more casual, mobile workforce - gig economy workers and personal assistants. We are equally interested in the effects of AI on human workers in these professions, and its effects on the professions themselves. Our focus in this roundtable is on what changes to New Zealand employment policy and regulation (if any) might be needed to respond to both types of effects.

FORMAT

This is a two-day closed workshop. Day 1 speakers will focus on the likely impact of AI on core concepts of employment law and labour issues that cut across professions. We will discuss questions such as the following:

- How are AI methods impacting on the process of hiring or selecting employees? How can we ensure these processes remain fair and accountable?
- How might AI related job losses fit within existing categories of redeployment, redundancy and unfair dismissal? Are employment law changes needed to cater for these scenarios?
- In the 'gig economy', the traditional role of a company manager is partly played by an algorithm - increasingly, one that makes some use of AI techniques. How does this revised model of management affect the workers in the company, individually and collectively? Is there any need to change existing legal categories of 'employee' and 'independent contractor'?
- Might new legal mechanisms for defining corporate rights and obligations be needed? Should AI systems be regarded as 'legal persons' for some purposes?

Day 2 will bring the themes from Day 1 to test against case studies in three professions: medicine, law and personal assistance work. We will also discuss some general questions that range across all professions:

- How are different professions responding to AI? In what ways are professions taking up AI tools? How do these areas of uptake relate to the responsibilities of professionals?
- How are AI tools affecting humans that work alongside them?
- How is the sharing of work between AI systems and human workers managed? Are there any general principles that could be adopted, or mandated?
- If human employees are replaced by AI systems, will the social dimension of professions be eroded - for instance, the 'pastoral' role of medical and legal professionals, or the interpersonal connections between casual workers and clients? If so, how (if at all) should this dimension be safeguarded?

Project Authors:

Professor James Maclaurin, Associate Professors Colin Gavaghan and Alistair Knott and
Ms Joy Liddicoat.

Contact email: Joy.Liddicoat@otago.ac.nz

Thursday 26 September 2019

8.30 - 9am Registration, welcome tea and coffee on arrival

9am-10.30am

	Welcome and orientation	[9.00 -
9.15]		
	Uses of AI in hiring and recruitment	
	Alistair Knott <i>University of Otago</i>	[9.15 - 9.35]
	James Maclaurin and Colin Gavaghan <i>University of Otago</i>	[9.35 -
9.55]		
	Discussion	[9.55 - 10.30]

10.30 - 11.00 Morning Tea

11.00 - 12.00 pm

	Laws relevant to AI-related redundancy and replacement	
	Gordon Anderson <i>Victoria University of Wellington</i>	[11.00 -
	11.20]	
	Avalon Kent <i>Combined Trade Unions</i>	[11.20 -
11.40]		
	Discussion	[11.40 - 1 pm]

1 pm - 2 pm Lunch (provided) [1 pm - 2 pm]

2 pm - 3.00 pm

	Employment and the gig economy	
	Rakesh Mistry <i>Straker Translations</i>	[2.00 -
2.20]		
	Elizabeth George <i>Auckland University</i>	[2.20 - 2.40]
	Discussion	[2.40 - 3.00]

3 pm - 3.30pm Afternoon Tea

3.30 - 5.00 pm

	Ethical and regulatory challenges	
	Matt Boyd <i>Adapt Research Limited</i>	[3.30 -
3.50]		
	Toby Gee <i>Barrister</i>	[3.50 - 4.10]

Richard Wallace *Parliamentary Counsel Office*

[4.10 - 4.30]

Discussion

[4.30 -4.55]

Summary and close[Project authors]

[4.55 - 5pm]

Friday 27 September 2019

8.30 - 9am Registration, welcome tea and coffee on arrival

9am-10.30am

Discussion points from Day 1, orientation for Day 2 [9.00 - 9.05]

AI in the legal profession

Jean Yang *McCarthy Finch* [9.05 - 9.25]

Geoffrey Roberts / Matthew Bartlett *Citizen AI* [9.25 - 9.45]

Mary Ollivier *Director, Regulatory, New Zealand Law Society*
[9.45 - 10.05]

Discussion [10.05 - 10.30]

10:30 - 11:00 Morning Tea

11.00am - 1pm

AI and Health / Elder Care

Pieta Brown *Orion Health* [11.00 - 11.20]

Elizabeth Broadbent, *University of Auckland* [11.20 - 11.40]

Angela Ballantyne, *University of Otago* [11.40 - 12.00]

Discussion [12.00 - 1 pm]

1 pm - 2 pm Lunch (provided)

2 pm - 3.30 pm

Digital assistants / digital counsellors

Jim Warren *University of Auckland* [2.00 - 2.20]

Gareth Cronin *AmbitAI* [2.20 - 2.40]

Discussion [2.40 - 3.15]

3.15 pm - 3.45pm Afternoon Tea

3.45 pm - 5 pm Digital assistants / digital counsellors continued

Lena Waizenegger *Auckland University of Technology* [3.45 - 4.05]

Hazel Bradshaw <i>Department of Internal Affairs</i>	[4.05 - 4.25]
Discussion	[4.25 - 4.55]
Summary and close [Project authors]	[4.55 - 5.00]

Participants

Gordon Anderson is Professor of Law at Victoria University of Wellington and is a leading authority on labour and employment law. He is one of the authors of the leading commentary on employment law, *Mazengarb's Employment Law* (looseleaf, Lexis:Nexis) and the author of *Reconstructing Labour Law: Consensus or Divergence?* (VUP 2011), an account of the legal nature of labour reforms over the last four decades. His most recent book, *The Common Law of Employment*, written with Douglas Brodie and Joellen Riley, was published by Edward Elgar in 2017. Gordon was the lead editor and a contributor to *Transforming Workplace Relations in New Zealand 1976-2016* (VUP 2017). Gordon has written numerous academic articles on a variety of aspects of New Zealand employment law particularly on personal grievances, the legal and industrial relations restructuring of the last two decades and the introduction of a good faith obligation into New Zealand labour law in 2000. His current research interests focus on the changing character of labour regulation and the future of labour law. Gordon has represented various clients in employment related matters and he has provided policy and legal advice on legislation and labour law reform. He is currently the chair of the Ministerial Taskforce reviewing the Holidays Act.

Angela Ballantyne is an Associate Professor in the Department of Primary Health Care and General Practice (Wellington) and the Bioethics Centre (Dunedin). Angela's research interests include exploitation, research ethics, the ethics of pregnancy and reproductive technologies, and secondary use research with clinical data. She has worked in schools of Medicine, Primary Health Care and Philosophy in New Zealand, Australia, England and the United States; and as the Technical Officer for Genetics and Ethics at the World Health Organization in Geneva. In 2018 and 2008 she was a Visiting Scholar at the Yale University Interdisciplinary Center for Bioethics.

Matthew Bartlett is an Executive Director of Citizen AI and a Director of Loomio. He has a background in book publishing, web development and online legal content.

Dr. Matt Boyd holds a PhD in philosophy from Victoria University of Wellington and an MBChB from the University of Otago. He conducts bespoke health and technology research and has published on Artificial Intelligence and New Zealand policy in *Policy Quarterly*. Matt was a major contributor to the AI Forum NZ's research report 'Towards Our Intelligent Future' including authoring the Forum's soon to be released on AI and Health Care in New Zealand. Matt has previously conducted health technology assessment for the National Health Committee, and worked at the University of Auckland's Centre for Medical and Health Sciences Education. Matt has interests in public health research and research that helps to mitigate catastrophic risk.

Dr. Hazel Bradshaw is a game designer and academic who leads the Emerging Technologies work-stream within the Department of Internal Affairs, NZ Government. Hazel holds a doctorate degree in Human Interface Technology, specialising in design systems for serious-games, a

Masters degree in Design, Strategy and Innovation and has held national and international academic positions, lecturing in creative technology, game-design systems and strategy and innovation processes. Hazel has published numerous academic papers and industry articles, outlining tangible design approaches for engaging broad groups in solving complex-problems, via the application of new technologies. Hazel focuses on building strategies for the tangible adoption, leveraging and navigation of the emerging technologies landscape; of which Artificial Intelligence is prominent, with the intent to prepare government for the impacts on society and public service delivery. These artefacts are drawn from a range of emerging technologies, such as Spatial Computing—for instance, Virtual and Augmented Reality, and Artificial intelligence tools, like Machine Learning (ML) and Natural Language processing (NLP). Hazel sits on the ‘Law, Ethics and Society’ working group of New Zealand’s AI Forum. Hazel and her team have contributed the ‘Legislation as Code’ use case assessing the ethical implications of legislation as code in an AI enabled democracy. Hazel is also conducting experimental work on how predictive algorithms are driving the erosion of social norms in an online setting. This work involves a Virtual Reality experience contextualising how predictive algorithms, (Narrow AI) optimised for ‘monetized clicks’, is driving the agenda of far-right online hate speech.

Dr Elizabeth Broadbent trained as an electrical and electronic engineer at Canterbury University to pursue her interest in robotics. She then worked at Transpower, Électricité de Tahiti, and Robotechnology. After becoming interested in the psychological aspects of robotics and in psychoneuroimmunology, she obtained her MSc and PhD in health psychology, supported by a Bright Futures Top Achiever Doctoral Award. She received an Early Career Award from the International Society of Behavioural Medicine and Early Career Research Excellence Award from the University of Auckland. She was a visiting academic at the school of psychology at Harvard University and in the Program in Science, Technology, and Society at Massachusetts Institute of Technology in Boston, USA. In 2017, she returned to Boston with a Fulbright award to study companion robots for four months.

Her current research interests include how stress affects our health, how our body posture affects our mood, interventions to help patients make sense of and cope with illness, and human-robot interaction in health contexts. She is particularly interested in the emotional connections we form with robots, and how we can build emotional intelligence and empathy skills in robots.

Pieta Brown is a Senior Data Science Consultant at Orion Health where she works alongside the machine learning research and product teams to deliver tailored client solutions in healthcare. Pieta is driven to see data science deliver real value and improved outcomes and brings a unique background combining law, management consulting and data science to this challenge. Pieta has comprehensive knowledge of data-driven solutions across the Healthcare, FMCG, Financial Services and Telecommunications sectors and is passionate about building useful and beautiful data products in New Zealand.

Gareth Cronin is Chief Technology Officer of Ambit, an AI-enabled conversational software platform, looking after product and technology vision, strategy, and execution. He is also an Executive General Manager at Xero, the cloud accounting and small business platform. Prior to founding Ambit and joining Xero, Gareth consulted for Air New Zealand and Vista Entertainment, led engineering at crime analytics software business Wynyard Group, at health software creator Orion Health, and at manufacturing software vendor Kiwiplan. Gareth serves

on the board of the IT Professionals New Zealand's (ITP) national tertiary degree accreditation programme under the international Seoul Accord, the steering board of the NZQA mandatory review of IT qualifications, and the advisory panel for the Auckland ICT Grad School. In the past he has been a member of the ITP Auckland branch committee and the IT advisory panel for Manukau Institute of Technology. Gareth left an earlier career as a piano teacher and musician to graduate with a BSc(Hons) in Computer Science, work as a software developer, and later complete an MBA at the University of Auckland.

Colin Gavaghan is an Associate Professor in the Faculty of Law at the University of Otago. He is the first director of the New Zealand Law Foundation sponsored Centre for Law and Policy in Emerging Technologies. The Centre examines the legal, ethical and policy issues around new technologies. In addition to emerging technologies, Colin lectures and writes on medical and criminal law. He is deputy chair of the Advisory Committee on Assisted Reproductive Technology and a member of the Advisory Board of the International Neuroethics Network. He was an expert witness in the High Court case of *Seales v Attorney General*, and has advised members of parliament on draft legislation. He is co-Director of the Otago's Centre for AI and Public Policy and co-principal investigator in the AI and Law in New Zealand project.

Toby Gee is a barrister and mediator at Lambton Chambers in Wellington. He qualified in law after studying mathematics and philosophy at Cambridge University. From 1993 until 2013 he practised as a barrister (England and Wales) at Crown Office Chambers in London. He specialises in product liability (medical and non-medical), insurance and professional risks, and medico-legal issues, among other civil disputes. He has published articles and presented seminars on managing cyber risks. He was a panellist at New Zealand's National Cyber Security Summit in 2015 and for the New Zealand Insurance Law Association in 2018, and has contributed to the development of New Zealand's national Cyber Security Strategy. He has three children and enjoys real world activities such as ski mountaineering and singing.

Elizabeth George is Professor of Management in the Graduate School of Management of the University of Auckland. She has held academic positions at the Hong Kong University of Science and Technology, Australian Graduate School of Management, University of Queensland and Western Michigan University as well as visiting positions in Duke University and the Indian School of Business. She has a Ph.D. in Organization Science from the University of Texas at Austin. She has an active research interest in nonstandard work arrangements and diversity in the workplace. Her work has been published in major international academic journals such as *Academy of Management Review*, *Academy of Management Journal*, *Administrative Science Quarterly*, *Journal of Applied Psychology*, *Organization Science* and *the Academy of Management Annals*. In addition, her research has been used by the *International Labor Organization* and the *US Society for Human Resource Management* to help inform public policy and management practice.

Avalon Kent is the Legal Officer at the New Zealand Council of Trade Unions. She has over 10 years' experience in industrial, employment, anti-discrimination, human rights, workplace injury compensation policy and law. She has a particular interest in pay equity and the regulation of non-standard & precarious employment. Avalon has a BA(Hons)(Industrial Relations), LLB & LLM (First Class).

Alistair Knott is an Associate Professor at the Department of Computer Science in the University of Otago, New Zealand. He studied Psychology and Philosophy at Oxford University, then took an MSc and PhD in AI at Edinburgh University. Ali has worked in AI for 25 years, focussing on models of natural language processing, human-computer dialogue and neural models of language and memory; he has published over 100 papers on these topics. He also works for the Auckland-based AI company Soul Machines, where he is implementing the embodied model of language developed in his book *Sensorimotor Cognition and Natural Language Syntax* (MIT Press, 2012). He is co-Director of the Otago AI and Society discussion group and co-principal investigator in the AI and Law in New Zealand project.

Joy Liddicoat is a lawyer whose primary research interest is human rights and technology. Joy is an Assistant Research Fellow on the AI and Law Project. Prior to joining the Project Joy was Assistant Commissioner at the Office of the Privacy Commissioner, managing policy and technology research and investigations into interferences with privacy. Between 2011-2014 Joy coordinated a global campaign *Internet Rights are Human Rights* advocating in the United Nations Human Rights Council, developing curricula and publishing related research. A Human Rights Commissioner for eight years, Joy was responsible for research on women's rights, national human rights institutions and led the Commission's 2010 inquiry into the experiences of transgender people in New Zealand. Joy is Vice President of InternetNZ <https://internetnz.nz/> which is responsible for domain name policy for the country code .nz.

James Maclaurin is a Professor in the Department of Philosophy and Associate Dean for Research in Humanities at the University of Otago. His MA in biological applications of mathematical information theory is from Victoria University of Wellington and his PhD in the philosophy of science is from the Australian National University. His research focuses on the relationship between science, public policy and ethics. His books include *What is Biodiversity?* (with Kim Sterelny, University of Chicago Press) and *A New Science of Religion* (with Greg Dawes, Springer Science). He has also published on philosophical methodology and on the application of evolutionary science in economics and computer science. He is co-Director of the Otago's Centre for AI and Public Policy and co-principal investigator in the AI and Law in New Zealand project.

Rakesh Mistry is a Product Manager at Straker Translations. Straker Translations with over 150 staff in 9 countries is one of the world's fastest growing translation companies. In his role Rakesh is part of the team at Straker Translations setting strategies, roadmaps and scoping out application developments to deliver high-quality translations over a technology-based platform. This includes discovering how Straker Translations can better utilise Machine Learning and AI to improve the overall delivery of our translation services. Straker Translations is a listed company on the ASX.

Paula O'Kane is a Senior Lecturer in human resource management. Her research spans many boundaries in the HR field but most recently she has been exploring the future of work, looking at the skills needed in the New Zealand context and how human resources and people practice might be impacted by automation and performance monitoring.

Mary Ollivier is the New Zealand Law Society's Director, Regulatory. Mary was admitted to the High Court in December 1991. She has practised in law firms in Auckland and Wellington and

overseas. She was previously the NZLS acting Executive Director from January 2018 until April 2019. Mary is involved in all legal regulatory matters including at an international level and in relation to lawyers becoming reporting entities under the anti-money laundering legislation from 1 July 2018 and is a current member of the Council of Legal Education.

Jenna Riddle is a partner at Dunedin law firm Cook Galloway Allan specialising in alternative dispute resolution. She has a broad range of litigation experience across a variety of fields, including: general commercial litigation, insurance, employment, health and safety, transport, regulatory and criminal and construction.

Geoffrey Roberts is an Executive Director of Citizen AI and was previously General Manager of Community Law Wellington. He has a background in not for profit management and access to justice initiatives.

Paul Roth is a professor of law at the University of Otago, and specialises in employment law and privacy law. Since 1994, he has written the LexisNexis looseleaf commentary *Privacy Law and Practice*, and has written extensively on both employment law and privacy law over the years. He has also practiced in this areas of law, and has worked on various projects for the International Labour Organisation, the European Commission, USAID, New Zealand government departments, as well as other agencies.

Diane Ruwhiu is a Senior Lecturer in Management, with research interests in understanding the different modes and practices of Māori economy and enterprise. Her recent work engages with conceptions of indigeneity in work, organisation and management across fields of critical management, entrepreneurship, tourism and gender.

Dr Jeanne Snelling holds a joint position as Lecturer at the Faculty of Law and at the Bioethics Centre at the University of Otago. Jeanne first joined the Faculty of Law in 2005 as a Research Fellow on the Multidisciplinary NZ Law-Foundation-sponsored Human Genome Project, after which she completed a PhD focusing on issue arising from Human Reproduction. Jeanne currently lectures Law and Medicine; Bioethics and the Life Sciences; convenes the Masters of Bioethics and Health Law; and lectures on health law and ethics to undergraduate medical and allied health students at the Otago School of Medicine. Jeanne's research interests include health law, particularly the ethical and legal implications of genetics and biotechnology, and criminal law.

Grace Smart is a policy advisor working on Economic Development policy at the Ministry of Business, Innovation and Employment. Currently, Grace is working in partnership with the digital technology sector to create an Industry Transformation Plan for the sector. This work will include consideration of the opportunities and challenges presented by technologies such as Artificial Intelligence to the tech sector and the wider economy. Grace has previous experience working on policy related to the manufacturing and screen sectors, and in MBIE's Just Transitions Unit.

Lord Thomas of Cwmgiedd was the Lord Chief Justice of England and Wales between 2013 and 2017. He is an internationally respected contract scholar and theorist of private law, and has a particular interest in aspects of IT, digitalisation, data and AI - particularly their effect on law,

legal practice and the courts. Lord Thomas is the New Zealand Law Foundation's 2019 Distinguished Visiting Fellow. He practised at the Commercial Bar in London from 1972 to 1996, becoming a QC in 1984. He was appointed to the High Court of England and Wales in 1996. Lord Thomas was successively a Presiding Judge in Wales, Judge in Charge of the Commercial Court, the Senior Presiding Judge for England and Wales, a Lord Justice of Appeal, and President of the Queen's Bench Division.

Dr Lena Waizenegger is a lecturer in Business Information Systems at the Auckland University of Technology, New Zealand. Lena received her PhD in Information Systems from the University of Innsbruck, Austria in July 2017. Her main research areas are (a) ubiquitous connectivity and team collaboration (b) conversational agents and (c) digital disconnection. In her research on conversational agents, she investigates how the technology is perceived by human employees that work "alongside" their new digital colleagues and the effects of conversational agents on the customer experience. She further explores how robots as team leaders that use different control styles are perceived by human team members and affect their work autonomy, job satisfaction and expected task performance. Her research has been published in various peer-reviewed Journals such as the International Journal of Knowledge Management (IJKM), the Journal of Travel Research, Vocations and Learning, and Cutter Business Technology Journal as well as conference proceedings such as ICIS, HICSS, and ECIS.

Richard Wallace is Parliamentary Counsel and Drafting Team Manager, Resources and Treaty, at the Office of Parliamentary Counsel. Richard has worked at the Parliamentary Counsel Office as a legislative drafter since 2003 and was appointed as a Drafting Team Manager in 2012. He established and led the Access to Secondary Legislation Project, which aims to collect and publish New Zealand's tertiary legislation on the NZ Legislation website, until September 2017. Richard has been involved in researching, developing and testing ways in which technology could change the manner in which legislation is drafted, made available, accessed and used. His particular areas of focus have been on producing rules as code, and developing the Better Rules methodology. Richard has a background in commercial law, having practised in New Zealand and England.

Sara Walton is an Associate Professor who teaches and researches in the area of sustainability and business often with a future focus. She is the director of the Master of Sustainable Business and chairs the Postgraduate Committee and postgraduate processes in the department. Sara has contributed towards knowledge in environmental and social entrepreneurship, innovation for environmental sustainability, sustainable transitions, environmental conflicts and understanding work in changing futures. She is part of the Otago Futures Research team that systemically explores narratives of the future of work, producing reports on the future of work in Dunedin (2013), for the ICT industry in Dunedin (2018) and New Zealand High Value Manufacturing (2019).

Jim Warren is a Professor of Health Informatics at the University of Auckland, based in the School of Computer Science. He specialises in design and evaluation of information systems to support long-term condition management. He has worked extensively with the National Institute for Health Innovation (NIHI) at the University's School of Population Health. With NIHI he has consulted on implementation of New Zealand's national health IT plan in areas including electronic referrals, shared care planning systems and information architecture. His current

work includes statistical modelling and machine learning to improve understanding of cardiovascular disease risk in New Zealand and development of an IT platform for coordinated screening and e-therapy to support mental health of New Zealand youth. This latter work is sponsored by the National Science Challenge, 'A Better Start - *e Tipu e Rea*' and CureKids. For over 10 years he has worked with the Department of General Practice and Primary Health Care on a consumer-operated health and lifestyle e-screening tool, eCHAT (the electronic Case-finding and Help Assessment Tool) and in recent years this tool has been expanded and trialed for young people (as YouthCHAT). He has been engaged with HINZ as three-time conference chair (2006-2008) and overall chair of the organisation (2008-2010) and has served on New Zealand's health informatics standards body. He is a Foundation Fellow of the Australasian College of Health Informatics. His degrees are in Computer Science and Information Systems from University of Maryland. After completing his PhD he worked for one year at The American University in DC and from 1993-2005 for University of South Australia in Adelaide.

Jean Yang is Chief Operations Officer and Vice President Legal Services of McCarthy Finch. Jean is helping reshape how law is practiced at legal AI business, McCarthy Finch. Originally a solicitor at Minter Ellison Rudd Watts, she was the first lawyer to join McCarthy Finch and has since built a team of Legal Engineers who work on the intersection of law and technology. Jean is a founding executive of LegalTechNZ, whose mission is to facilitate the development and adoption of legal technology in New Zealand.