

Comparative Perspectives on Broadband Regulation and Access

Wednesday, October 18, 2023

12:00pm – 5:30pm

[Donald K. Johnson Centre, First Canadian Place / Exchange Tower](#)

130 King Street, Toronto, Ontario

Host: Ivey Business School, Western University, Ontario

Organizer: Erik Bohlin, Ivey Chair in Telecommunication Economics, Regulation and Policy – with support from [Lawrence National Centre for Policy and Management](#), Ivey Business School

Schedule

12:00 pm – 1:00 pm	Welcome Buffet Lunch
1:00 pm – 1:15 pm	Welcome and Introduction Erik Bohlin, Professor, Ivey Business School Romel Mostafa, Director, Lawrence National Centre for Policy and Management, Ivey Business School
1:15 pm – 1:30 pm	Opening Keynote Broadband in Canada: Surveying the Policy Landscape Adam Scott, Vice Chair, Canadian Radio-Television and Telecommunications Commission (CRTC)
1:30 pm – 1:45 pm	Three Decades of Broadband Access Regulation: Convergences and Divergences in the International Experience Gérard Pogorel, Professor Emeritus, Télécom Paris, France
1:45 pm – 2:00 pm	How Have EU Regulators Changed Approach to Broadband Wholesale Regulation? Annegret Groebel, Director International Relations, BNetzA, Germany <i>*Presenting virtually</i>
2:00 pm – 2:15 pm	What to Expect from \$100 Billion in U.S. Broadband Deployment and New Maps? Sarah Oh Lam, Senior Fellow, Technology Policy Institute, United States <i>*Presenting virtually</i>

2:15 pm – 2:30 pm	<p>EU Broadband Regulation and Economics: Geographical Remedies and Co-investment</p> <p>Carlo Cambini, Professor, Politecnico di Torino, Italy</p>
2:30 pm – 3:00 pm	<p>Coffee Break</p>
3:00 pm – 3:15 pm	<p>Into the Next Generation of Wholesale Access: Metaverse, Streaming Video and AI</p> <p>Eli Noam, Professor, Columbia University, United States <i>*Presenting virtually</i></p>
3:15 pm – 3:30 pm	<p>How Will Wholesale Broadband Deregulation Reduce Digital Divide in the Far North?</p> <p>Heather Hudson, Professor Emerita, University of San Francisco, United States</p>
3:30 pm – 3:45 pm	<p>Can Wholesale Broadband Regulation Prevent and Eliminate Digital Discrimination?</p> <p>Glenn Woroch, Adjunct Professor, University of California at Berkeley, United States <i>*Presenting virtually</i></p>
3:45 pm – 4:00 pm	<p>Market Structure and Considerations on Cross-Country Policy Analysis</p> <p>Andre Arbour, Director General, Telecommunications and Internet Policy, Innovation, Science, Economic Development Canada (ISED)</p>
4:00 pm – 4:50 pm	<p>Panel Discussion</p> <p>Moderated by Romel Mostafa, Director, Lawrence National Centre for Policy and Management, Ivey Business School</p> <p>Georg Serentschy, Serentschy Advisory Services, Austria</p> <p>Heather Hudson, Professor Emerita, University of San Francisco, United States</p> <p>Ian Scott, Former Chair, Canadian Radio-Television and Telecommunications Commission (CRTC)</p>
4:50 pm	<p>Final Remarks and Reflections</p> <p>Erik Bohlin, Professor, Ivey Business School</p>
5:00 pm – 6:00 pm	<p>Networking Reception with Cocktails and Snacks</p>

Speakers



Andre Arbour is the Director General of Telecommunications and Internet Policy at Innovation, Science and Economic Development Canada. He is responsible for leading policy development on various telecommunications matters including Internet and mobile wireless competition, rural and remote access, international Internet governance and in relation to the Telecommunications Act. Prior to his current role he occupied a series positions working in telecommunications and public policy. Past initiatives including leading development of Canada's first national Connectivity Strategy, leading policy for \$4 billion in connectivity program funding, and policy development on various issues related to net neutrality and consumer protection.



Erik Bohlin (Professor and Ivey Chair in Telecommunication Economics, Policy and Regulation, [BEPP](#)) is an expert in telecommunications policy, an inter-disciplinary topic concerned with the impact of digitalization in the economy and society. He is Editor-in-Chief of *Telecommunications Policy*, a premier journal in the field. He is on leave as Professor at Chalmers University of Technology, Sweden. His graduate degree is in Business Administration and Economics at the Stockholm School of Economics (1987) and his Ph.D. is from Chalmers University of Technology (1995). He is a Member of the Swedish Royal Academy of Engineering, and Past Chair of the International Telecommunications Society, an inter-disciplinary professional society convening conferences on the evolving digital society and policy needs.



Carlo Cambini is Full Professor of Industrial Organization at the Politecnico di Torino. He has an extensive background in research focusing on industrial economics, regulatory economics and competition policy with a strong background in telecommunications, energy markets and transportation. He won the award as best Young Economist at the International meeting of the European Association of Researcher in Industrial Economics – EARIE (Lausanne, 2000). His work has been published in leading scientific journals such as the *RAND Journal of Economics*, *Journal of Industrial Economics*, *Journal of Economics & Management Strategy*, *International Journal of Industrial Organization*, *Industrial and Corporate Change*. He has been invited as *Keynote Speaker* on regulation and competition issues in telecom markets in conferences organized by the Australian Competition and Consumer Commission (Brisbane, 2012), the New Zealand Commerce Commission (Wellington, 2013) and the Independent Regulators Group - IRG (Frauenfeld, 2014), i.e. the Association of European National Regulators in the Telecom markets. He also provides speeches and seminars in several Telecom National Regulator Authorities such as ACM (Netherlands), ComReg (Ireland), CNMC (Spain), Anacom (Portugal) and at the European Commission (DG COM). Last but not least, he was appointed as *Chief Economist* at the Italian Transport Authority until April 2021, and then he acted as economic expert at the Italian Office of the Prime Minister for the period May 2021 – October 2022.



Dr. **Annegret Groebel** is a Director of International Relations/Postal Regulation at the German Regulatory Authority for Electricity, Gas, Telecommunications, Post and Railway (BNetzA). Dr Groebel has worked for BNetzA since 1998. She has been CEER President since January 2019 and was a Vice-President of CEER as of 2012. She was appointed Vice-Chair of the International Confederation of Energy Regulators (ICER) in June 2020. She has also chaired the CEER Market Integrity and Transparency (MIT) Working Group since 2013. She is a member of the Board of Regulators of the Agency for the Cooperation of Energy Regulators (ACER). She has excellent knowledge of the European regulatory framework for electronic communications as well as the regulatory framework for the internal energy market and is actively involved in the work of the Body of European Regulators for Electronic Communications (BEREC). Since 2020 she has been Chair of the BEREC Office Advisory Group (BAG) and has been Co-Chair of the Remedies WG for many years. She is actively involved in the work of the European Regulators Group for Postal Services (ERGP) and IRG Rail. She is also a member of the OECD's Network of Economic Regulators (NER) and its Bureau, a working group of the OECD looking at cross-sectoral governance issues of economic regulators. She has experience in advising public authorities on regulatory reform and sector specific regulation in numerous projects. Apart from her professional duties, she has also been lecturing for a considerable time on various subjects in the fields of economics, finance, social policy, trade policy and European Integration, as well as on the regulatory framework in the German and European telecommunications and energy markets at a variety of universities and vocational training academies in Germany, the FSR in Italy, and Switzerland. Dr Groebel is the author of various publications in the field of telecommunications and energy regulation. Dr. Groebel has a doctoral degree in Economics from the University of Mannheim, a M.A. (Master of European Administrative Management) from FH Bund (Bruehl) and a Diploma in Economics from the University of Heidelberg.



Heather Hudson is Professor Emerita at the University of San Francisco, and Affiliate Professor and former Director at the Institute of Social and Economic Research, University of Alaska Anchorage. Her research focuses on applications of communication technologies for socio-economic development, regulatory issues, and policies and strategies to extend affordable access to telecommunications including broadband in rural and Indigenous regions. She has planned and evaluated communication projects in the Canadian North and Alaska and in more than 50 developing countries and emerging economies in Africa, Asia, the Caribbean and the South Pacific. She has consulted for many international organizations, for consumer and Indigenous organizations and for government agencies, and has testified at regulator proceedings in the U.S. and Canada. She is a Board member of the Pacific Telecommunications Council (PTC), the Global Telecommunications Women's Network (GTWN), and *Telecommunications Policy*. Professor Hudson is the author of numerous articles and several books.



Sarah Oh Lam is a Senior Fellow at the Technology Policy Institute. Sarah was previously the Operations and Research Director for the Information Economy Project at George Mason School of Law. She has also presented research at the Telecommunications Policy Research Conference and has co-authored work published in the *Northwestern Journal of Technology & Intellectual Property* among other research projects. Her research interests include law and economics, regulatory analysis, and technology policy. Sarah completed her PhD in Economics from George Mason University, and holds a JD from GMU and a BS in Management Science and Engineering from Stanford University



Romel Mostafa is an Assistant Professor of Business, Economics and Public Policy at the Ivey Business School. Romel's areas of research and expertise include strategy & capability development in new firms, innovation & competitive dynamics, industrial evolution & policy, as well as behavioural decision-making. He has published in a number of leading academic journals, including *Academy of Management Journal*, *Journal of Behavioral Decision Making*, *Journal of Risk & Uncertainty*, *Organization Science* and *Management Science*. His research and commentaries have been featured in global media outlets such as CNN, NPR and the New York Times. Romel has taught both at graduate and undergraduate levels, and received several teaching awards. He obtained his PhD and MSc from Carnegie Mellon University, and BA from Lawrence University. As the Director of Ivey's [Lawrence National Centre for Policy and Management](#), Romel spearheads the Centre's research, outreach and teaching initiatives. The Centre advocates for sound policy and corporate action towards unlocking national competitive advantage, by focusing on critical challenges and opportunities around digital, trade and social infrastructural pillars.



Eli Noam has served as Professor of Economics and Finance at the Columbia Business School and its Garrett Professor of Public Policy and Business and is Director of the Columbia Institute for Tele-Information, a research center focusing on management and policy issues in telecommunications, internet, and electronic mass media. Served for three years as a Commissioner for Public Services of New York State. Appointed by the White House to the President's IT Advisory Committee. He has also taught at Columbia Law School, Princeton University's Economics Department and Woodrow Wilson School, and the Swiss universities of St. Gallen and Fribourg, and is active in the development of electronic distance education. Noam published 37 books and over 350 articles in economics journals, law reviews, and interdisciplinary journals, and was a regular columnist for the *Financial Times* online edition.



Gérard Pogorel is Professor emeritus of Economics, Institut Polytechnique de Paris-Telecom Paris Graduate School of Engineering, CNRS Interdisciplinary Institute for Innovation. He is an independent expert in international telecommunications, media and the digital economy. He published recently widely circulated and influential position books and papers: *Decoding EU Digital Strategy Autonomy (Co-Editor)*, *EU Strategic Autonomy, industry implications in the changing world trade order (European Liberal Forum)*, *5G for Industry 4.0: Actors, Challenges, and a New Start for Europe*, *Convergence in Media and Telecom in the face of COVID-19* (Report to the Robert Schuman Foundation, co-authored with Augusto Preta), *The new post-COVID-19 International Trade Order*, *Spectrum 5.0 Re-thinking Spectrum Awards for Optimal 5G Deployment*, and a reference book *The Radio Spectrum: Managing a Strategic Resource*. He co-founded the European Spectrum Management Conferences, acted as its Chair/Rapporteur, and is a frequent speaker in international conferences. He is an expert with the European Commission, and was Chair of the European Union Framework Research & Technology Development Programme Monitoring Panel, and Chair of the Monitoring Committee of the EU Information Society and Technologies Research Programme. He co-authored a report to the Prime Minister of Italy assessing the investments by operators in Broadband networks in the European Digital Agenda perspective. He participates in numerous international Government-level and regulation Authorities Committees and Scientific Committees on telecom and media policy and regulation in Europe and Asia. He is a Senior Fellow with the European Liberal Forum (European Parliament) and Officier des Palmes académiques.



Adam Scott is currently the Vice-Chair of Telecommunications at the Canadian Radio-television and Telecommunications Commission. With over 20 years of telecommunications policy and regulatory experience, Adam has managed complex files with technological, economic, social and legal dimensions, including Canada's 5G spectrum auctions. He has 12 years of experience at the executive level and brings a wealth of legislative, policy, regulatory, and program expertise to the telecommunications space. During his time at Innovation, Science and Economic Development Canada, he was responsible for developing strategies on how to optimise social and economic benefits of wireless spectrum in Canada. For many years, he developed government programs to improve broadband access in rural and remote parts of Canada, and developed a vision and strategy for improving Canada's communications infrastructure, addressing rural gaps, affordability issues, competition, innovation and investment. Adam brings significant experience to the table in consulting and cooperating with industry, civil society, other levels of government, departments and agencies.



Ian Scott is former Chairperson and Chief Executive Officer at the Canadian Radio-television and Telecommunications Commission. His term ended in January 2023. Mr. Scott has over 25 years of policy and regulatory experience in broadcasting and telecommunications both in the public and private sectors. After working at the Competition Bureau, he joined the CRTC from 1990 to 1994, where he collaborated on the development of a framework for long-distance telephone service competition in Canada. Between 2007 and 2008, as part of the Executive Interchange Program, he was Senior Policy Advisor to the Chairman at the CRTC. Before rejoining the CRTC in 2017, Mr. Scott held various executive positions in the communications industry, including at Telesat Canada, Telus and Call-Net Enterprises, one of the first companies to offer competition in the Canadian long-distance market. He also provided leadership on broadcasting policy and regulatory issues as an executive at the Canadian Cable Television Association. Mr. Scott has served on various boards, including Women in Communications and Technology and Ski Quebec Alpin. Mr. Scott has a Bachelor of Arts in Political Science, McGill University.



Georg Serentschy advises C-level and top experts in the digital sector (platforms, telecommunications, media, and technology) on strategy, regulation & competition, spectrum policies, cybersecurity policies and innovation. A prime focus of his advisory work is the strategic positioning of companies in a specific regulatory environment. Experience shows that regulation is the most critical lever for driving commercial performance, investment and innovation in the digital sector. Georg's professional career spans more than 40 years. It began in nuclear physics, after which he turned to industrial research and development in various high-tech industrial areas such as software development, solar energy, aerospace, and telecommunications. After his career in industry, he joined Arthur D. Little, a strategy consulting firm. Then, for over a decade, he headed up the Regulatory Authority for Telecommunications in Austria (RTR-GmbH). The highlight of Georg's regulatory career was chairing and vice-chairing BEREC (Body of European Regulators for Electronic Communications). In 2014, he founded his consulting boutique, focused on advising C-suite and top digital sector experts on strategy, artificial intelligence, regulation & competition, spectrum policy, cybersecurity policy and innovation. In parallel, he continues to work with leading consultancies on a project basis.



Glenn Woroch is Adjunct Professor Emeritus of Economics, University of California, Berkeley where he taught microeconomics, industrial organization and econometrics for nearly 25 years. During 2020-2021, Dr. Woroch served as the Chief Economist of the Federal Communications Commission. For many years he was the Executive Director of the Center for Research on Telecommunications Policy, a research unit located in Berkeley's Haas School of Business. Previously, Dr. Woroch taught economics at the University of Rochester and Stanford University, and was a senior member of technical staff at GTE (Verizon) Laboratories. He holds a Ph.D. in

economics and an M.A. in statistics from Berkeley and a B.A. from the University of Wisconsin, Madison.