

Ryan Whalen

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CURRENT POSITIONS

Assistant Professor – University of Hong Kong, Faculty of Law, 2017–Present

Adjunct Member – Dalhousie University, Faculty of Graduate Studies, 2017–Present

FORMER POSITIONS

Assistant Professor – Dalhousie University School of Information Management, 2016–2017

Law & Science Fellow – Northwestern University School of Law, 2014–2016

PUBLICATIONS

Boundary Spanning Innovation and the Patent System: Interdisciplinary Challenges for a Specialized Examination System, (forthcoming), RESEARCH POLICY.

Research Funding's "Endorsement Effect" on Scientific Boundary Work and Research Production: Government Legitimization of Alternative Medicine (forthcoming), SCIENCE AND PUBLIC POLICY.

Priority Queuing on the Docket: Universality of Judicial Dispute Resolution Timing. FRONTIERS IN PHYSICS (special research topic—Law as a Natural Phenomenon: The Empirical Investigation of the Legal Universe between Complexity, Biology, and Computation) (2018).

Complex Innovation and the Patent System, 17 CHICAGO-KENT JOURNAL OF INTELLECTUAL PROPERTY 1 (2018).

Common Law Evolution and Judicial Impact in the Age of Information, 8 ELON LAW REVIEW 3 (2017) (with Brian Uzzi & Satyam Mukherjee).

Legal Networks: The Promises and Challenges of Legal Network Analyses, 2016 MICHIGAN STATE LAW REVIEW 539 (2016).

Second Order Obviousness: How Information & Communication Technologies Facilitate Invention and Why the Law Should Care, 97 THE JOURNAL OF THE PATENT & TRADEMARK OFFICE SOCIETY 597 (2015).

Judicial Gobbledygook: The Readability of Supreme Court Opinions, 125 YALE LAW JOURNAL FORUM (2015).

Will the Agencies Ever Go Marching In? Public Rights in Federally-Funded Inventions, 109 NORTHWESTERN UNIVERSITY LAW REVIEW (2015).

Bad Law Before it Goes Bad: Citation Networks and the Life Cycle of Overruled Precedent, NETWORK ANALYSIS IN LAW, Radboud Winkels ed., ESI Law, Science & Technology Series (2013).

The U.S. Government as an Interagency Network, 4 INTERAGENCY JOURNAL 69 (2013).

Modeling Annual Supreme Court Influence: The Role of Citation Practices and Judicial Tenure in Determining Precedent Network Growth, COMPLEX NETWORKS, A. Evuskoff et. al eds., Springer Verlag Studies in Computational Intelligence Series (2013).

PUBLISHED PROCEEDINGS, CONFERENCE PRESENTATIONS & INVITED TALKS:

2016 “Measuring Recombinatorial Innovation and its Diffusion: Patent Citation Distance Measures of Knowledge Translation, Integration, Diffusion and Scope.” Presentation at the annual Academy of Management Conference, Anaheim CA (with Noshir Contractor).

- “Legal Evolution: Temporal Patterns of Precedent Citation & Judicial Opinion Impact,” presentation at the International Conference on Computational Social Science (IC2S2), Northwestern University Kellogg School of Management, Evanston IL (with Brian Uzzi and Satyam Mukherjee)
- “Explorative Knowledge Search, Innovation & Inventor Teams,” presentation at the International Conference on Computational Social Science (IC2S2), Northwestern University Kellogg School of Management, Evanston IL (with Noshir Contractor)
- “Citation Distance: Measuring Knowledge Translation, Integration, Diffusion, and Scope”, Canadian Association for Information Science Annual Conference, Calgary AB (with Noshir Contractor).
- “Patent Citation Distance: Measuring Trends in Combinatorial Innovation,” presentation at INSNA Sunbelt Conference, Newport Beach (with Noshir Contractor).
- “Citation Distance: Measuring Changes in Scientific Search Strategies,” presentation at 3rd Annual ACM Big Scholar Workshop, Montreal (with Yun Huang, Craig Tanis, Anup Sawant, Brian Uzzi, and Noshir Contractor).
- 2015 Invited discussant at “Legal Quanta” symposium at Michigan State University College of Law.
- “Judicial Citations & Common Law Evolution: A Chronometric Analysis of High Court Citations,” presentation at the Conference on Empirical Legal Studies 2015, St. Louis (with Satyam Mukherjee & Brian Uzzi).
- “The Chronometric Knowledge Frontier in Patenting and Law: Investigating mid-career of inventors and effect of teams,” presentation at the Annual Conference on Complex Systems, Tempe Arizona (with Satyam Mukherjee & Brian Uzzi).
- “Natural Language Processing, Article Content, and Bibliometrics: Predicting High Impact Science,” ACM WebSci 2015, Oxford UK (with Yun Huang, Anup Sawant, Brian Uzzi & Noshir Contractor).
- “Automated Detection of Perfunctory Citations: Nuancing Impact Factors and Weighting Citation Networks to Account for Citation Heterogeneity,” INSNA Sunbelt, Brighton UK.
- “Patent Application Citations and the Examination Process: A Network-Based Date-Sensitive Method to Analyze Patent Applications,” Law & Big Data Workshop, International Conference on Artificial Intelligence and Law, University of San Diego.
- Invited discussant at “Predicting Legal Outcomes” workshop at CodeX—The Stanford Center for Legal Informatics, Palo Alto, CA.
- “Team Size, Boundary-Spanning, and Communication Clarity: Readability, Teams and Success in Patent Applications,” Presented at InGroup, Carnegie Mellon University, Pittsburg, PA, (with Hilla Brot, Brian Uzzi, & Noshir Contractor)
- “Boundary Spanning Patent Applications, Teams and the Patent Examination Process,” Presented at the Science of Team Science, National Institutes of Health, Bethesda MD, (with Noshir Contractor).
- 2013 “Bad Law Before it Goes Bad: Citation networks and the life cycle of overruled Supreme Court

- precedent.” Presented at the Workshop on Network Analysis in Law at International Conference on Artificial Intelligence in Law, Rome, Italy.
- 2012 “Legal Complexity: Measuring complexity within the Supreme Court precedent network and predicting network growth,” invited talk at Argonne National Laboratory – Laboratory for Advanced Numerical Simulation.
- “Organizational structure as a multiplex network: The case of the US federal government.” International Communication Association. Phoenix, AZ.
- “Reconceptualizing Precedent Depreciation: Using tree network growth to measure and compare court decisions.” International Network for Social Network Analysis. Redondo Beach, CA.
- 2011 “Government Structure as a Multiplex Network: Improving our understanding of interorganizational relations,” Organizational Communication Mini Conference, Columbia, MO.
- “The Structure of Federal eGovernment: Using hyperlinks to analyze the .gov domain,” Political Networks Conference, Ann Arbor, MI.
- “Government Agency Network Discovery via Hyperlinks and Datalinks,” WebSci, Koblenz, Germany (with Ding Li, Noshir Contractor, & Deborah McGuinness).
- “The Canadian Broadcasting Corporation and Online Interactivity: An Empirical Study of User Behaviour at CBC.CA,” Canadian Communication Association Annual Conference, Fredericton, NB.

OTHER WRITING

- “The Low Cost and Great Benefit of Opening Canadian Innovation Data,” *Policy Options*, Feb. 2017.
- “An Innovative Canada Needs an Innovative Information Policy,” *University Affairs*, May 2016
- “Context is Everything: Making the Case for More Nuanced Citation Impact Measures,” *LSE Impact of Social Sciences Blog*, January 2016
- “Dear Neighbor: A Dialogue on the Kantian Ethics of Your Loud Motorcycle” *Defenestration Magazine*, November 2016
- Guest Blogger, *TheFacultyLounge.com*
- Occasional Blogger, *ryanwhalen.com*

EDUCATION

NORTHWESTERN UNIVERSITY

Evanston, IL

Ph.D. in Media, Technology & Society, 2016

Dissertation title: Knowledge Recombination, Diffusion, and Research Team Composition: Understanding 21st Century Innovation

Dissertation committee:

Noshir Contractor – Jane S. & William J. White Professor of Behavioral Sciences, McCormick School of Engineering & Applied Science, the School of Communication and the Kellogg School of Management at Northwestern University

Brian Uzzi – Richard L. Thomas Professor of Leadership and Organizational Change,
Kellogg Graduate School of Management at Northwestern University
Lee Fleming – Coleman Fung Chair of Engineering Leadership, Industrial Engineering and
Operations Research, UC Berkeley College of Engineering
Laura Pedraza-Farina – Assistant Professor, Northwestern Law

NORTHWESTERN UNIVERSITY SCHOOL OF LAW

Chicago, IL

J.D. (*magna cum laude*), 2016

Activities Editor-in-Chief, NORTHWESTERN UNIVERSITY LAW REVIEW
Co-ordinator JD-PhD colloquium
Member, Intellectual Property Law Society
Member, Law & Technology Committee

NATIONAL CHENGCHI UNIVERSITY

Taipei, Taiwan

M.A. in International Communication studies, 2010

Thesis title: *The Canadian Broadcasting Corporation and Online Interactivity: An Empirical Investigation of User Generated Content at CBC.ca*

Activities Academic Editorial Consultant for National Chengchi Professors
Teaching Assistant, Dr. David Weaver's Political Communication Graduate Seminar

SAINT MARY'S UNIVERSITY

Halifax, NS, Canada

B.A (*hons – summa cum laude*) in History, 2008

Honours Inducted into the Saint Mary's University Academic Hall of Excellence
Activities Academic Senate Member
Vice-Chair of Academic Senate Student Caucus
Member of Presidential Budget Advisory Committee

CIRCOARTS

Christchurch, New Zealand

Dip. EqI 5, Circus & Performing Arts, 2000

Major Juggling & Object Manipulation
Minor Equilibristics

RESEARCH INTERESTS

Intellectual Property Law, Computational Legal Studies, Computational Social Science, Innovation Policy, Science & Technology Studies, Collaboration, Creativity

WORKING PAPERS & PROJECTS

A Network Theory of Non-Obviousness

Complex Innovation and the Patent Office

The Ethics of Computational Legal Studies
Constitutional Topic Modelling
Automated Detection of Patent Thickets

SERVICE

Deputy Director of the LLM in Intellectual Property and Information Technology – University of Hong Kong, Faculty of Law

Deputy Director of the JD Program – University of Hong Kong, Faculty of Law

Member of the Dean's Law & Technology committee – Northwestern University Pritzker School of Law

Member of the School of Information Curriculum Committee – Dalhousie University

Secretary of the School of Information Appointments and Tenure Committee – Dalhousie University

Member of the Faculty of Management Constitutional Review Committee – Dalhousie University

Member of the Faculty of Management Scholarly Impact Measurement Committee – Dalhousie University

Program Committee – International Conference on Computational Social Science (IC2S2) 2017.

Reviewer for:

Research Policy

IEEE Transactions on Emerging Topics in Computing

Netherlands Organization for Scientific Research

Artificial Intelligence and Law

Northwestern University Law Review

Journal of Empirical Legal Studies

Business & Politics Journal

Decision Sciences

International Conference on Computational Social Science (IC2S2) – Program Committee Member

Canadian Journal of Library and Information Science

Canadian Association for Information Science

Journal of Technology, Policy, and Management

SKILLS AND WORKSHOP TRAINING

Certificate of Teaching and Learning in Higher Education – University of Hong Kong Centre for Enhancement of Teaching and Learning

Virtual School of Computational Science and Engineering (VSCSE) Data Intensive Summer School (2014 @ University of Chicago)

New England Complex Systems Institute (NECSI) Complex Systems Modeling and Networks course (2012 @ MIT)

Interuniversity Consortium for Political and Social Research (ICPSR) Large Scale Network Analysis course (2011 @ University of Michigan)

Programming/Scripting/Database languages: Python, R, SQL, Neo4J

Languages: English (native) & Mandarin Chinese (conversational)

FUNDING, AWARDS AND RECOGNITIONS

“Patent Landscapes: A Multiplex Approach to Solving the Prior Art Problem” University of Hong Kong Research Committee: \$150,000 (HKD)

Joint JD/PhD Funding: Northwestern University: 2010-2016

Robert J. Dole Institute of Politics Travel Grant: 2014 - \$750

Northwestern University Research Start Up Grant - \$1000

NSF ICPSR Workshop Grant: 2011 - \$600

Achievement Scholarship: Taiwan Ministry of Education: 2009 - \$1000

Taiwan National Science Council Academic Travel Grant: 2009 - \$1000

Top Student Scholarship: National Chengchi University College of Communication: 2009 - \$1000

International Student Scholarship: National Chengchi University 2008-2009 - \$3000

Inducted into Saint Mary’s University Academic Hall of Excellence: 2008

Taiwan Scholarship Program Scholarship: 2005-2006 - \$12 000

Achievement Scholarship: Saint Mary’s University 2007-2008 - \$3500

Alumni Association Scholarship: Saint Mary’s University 2005-2006, 2007-2008 - \$2000

Coy Family Scholarship: Saint Mary’s University 2007-2008 - \$3500

Dean’s List: Saint Mary’s University 2004-2008, Northwestern University Law School 2012-2014.

TEACHING EXPERIENCE & INTERESTS

Intellectual Property & Information Technology

Patent Law

Introduction to Data Science

Information Policy

Data Management

Computational Social Science for Graduate Researchers—designed course and course pack (under supervision of Professor Darren Gergle—Technology & Social Behavior, Northwestern University)

Designing and Leveraging Organizational Networks, served as teaching assistant in Master of Science in Communication course at Northwestern University

Social Network Analysis, served as teaching assistant in SNA class offered jointly by Northwestern University's McCormick School of Engineering & the Northwestern University School of Communication

Design of Networks, served as teaching assistant in network class offered by Northwestern University's Kellogg School of Business

REFERENCES AVAILABLE UPON REQUEST