

CURRICULUM VITAE

Ichiro Fujinaga

555 Sherbrooke Street West, Montréal, Québec, Canada H3A 1E3

Office: 514.398.4535x00944 Fax: 514.398.8061

Email: ichiro.fujinaga@mcgill.ca Homepage: <http://www.music.mcgill.ca/~ich>

Born: Fukuoka, Japan. 1 April 1956 (Canadian citizen)

Education:

1989–97	McGill University	Ph.D.	Music Technology
1982–89	McGill University	M.A.	Music Theory
1979–82	University of Alberta	B.Mus.	Theory and Percussion
1975–79	University of Alberta	B.Sc.	Applied Mathematics in Computing Science, Honors

Current Position: Associate Professor (2005–), Chair, Music Technology Area (2002–3, 2009–12, 2014–5, 2017–8), Associate Dean of Research and Administration (2016–7), Schulich School of Music, McGill University
2002–
Teach undergraduate and graduate courses in Music Technology Area. Other duties include thesis supervision, administration, and research.

Research Interests: Optical music recognition, digital prosopography, pattern recognition, machine learning, music perception, digital signal processing, sound quality, genetic algorithms, music information acquisition, preservation, and retrieval

Employment History

2016/01–6/3 **Visiting Professor** (Tsukuba University)
Graduate School of Library, Information, and Media Studies (Prof. H. Terasawa)

2008–9 **Visiting Professor** (Tsukuba University)
Graduate School of Library, Information, and Media Studies (Prof. Y. Hiraga)

2002–5 **Assistant Professor** (McGill University)
Chair, Music Technology Area (2002–3)
Acting Director, Centre for Interdisciplinary Research in Music Media and Technology (2003/08–2004/11)

1999–01 **Principal Consultant** (NSF Digital Libraries Initiative Grant)
Eisenhower Library, Johns Hopkins University
Convert digitally scanned 29,000 pieces of American popular sheet music into computer-readable format and MIDI.

1995–97 (summers) **Visiting Professor** (Japan Advanced Institute of Science and Technology)
Department of Information Science (Prof. S. Horiguchi)
Independent research, conduct seminars, and direct graduate students in multi-media application research.

1993–02 **Faculty**
Computer Music Department, Associate Director of Information Technology
Peabody Conservatory of Music, Johns Hopkins University
Teach graduate courses including Digital Music Programming, Synthesis Theory, and seminars on Csound, Max/Pd, SuperCollider, Web/HTML, and Unix. Other duties include graduate student research consulting and research.

- 1988–93 **Full-time Research Assistant**
 Faculty of Music, McGill University
Develop an optical music recognition system. Environment: Objective-C, C, Open Look, NeWS (NeXT, Sun 386i).
- 1986–93 **Programmer/Consultant**
 Department of Psychology (Prof. D. J. Ostry), McGill University
Maintain and develop various programs for analyzing scientific data, including interactive 3D graphic displays. Environment: Microsoft C, HALO (IBM PC).
- 1984–93 **Systems Analyst**
 Faculty of Music, McGill University
Installation and maintenance of Unix network and PCs in the faculty used for research and administration purposes. Consultation and tutorials for all users. Make purchase recommendation to the faculty. Custom programming.

Academic Committees:

- McGill Standing Internal Review Committee (2019/08–2021/08)
- McGill (Music) Digital Rights Management Committee (Chair: 2016–7)
- CIRMMT Executive Committee (2016–7)
- McGill Teaching and Learning Spaces Working Group (2016–7)
- McGill University Teaching Labs Working Group (2016–7)
- McGill Research Advisory Council (2016–7)
- McGill Prizes and Awards Coordinating Committee (2016–7)
- McGill (Music) Faculty Executive Committee (2016–7)
- McGill (Music) Departmental Tenure Committee (2015–6, 2017–8)
- McGill (Music) Academic Committee on Teaching and Programs (2012–4)
- McGill (Music) Reappointment Committee (2014)
- McGill University Tenure Committee for the University Libraries (2011–3)
- McGill Web Management System Migration Steering Committee (2011–3)
- McGill Music Library Advisory Committee (2010–5, Chair: 2013–5)
- McGill Senate (2006–8)
- CIRMMT Board of Directors (2005–15)
- McGill (Music) Technical Committee on Network Management and Development (Chair: 2004–8)
- CIRMMT Executive Committee (2003–4, Chair: 2009–10)
- McGill Music Faculty Position Search Committee (2003, 2005, 2010)
- Dean’s Essay Competition Selection Committee (2003, 2005–6, 2008)
- McGill (Music) Committee of Area Chairs (2002–3, 2009–12, 2014–5)
- McGill (Music) Information System and Technology Committee (2002–8)
- McGill (Music) Subcommittee of Graduate Studies (2002–)
- Peabody Working Group on the Academic Issues (2001–2)
- Peabody CFO Search Committee (2000)
- Provost’s Undergraduate Research Awards Selection Committee (2000–2)
- JHU Technology Fellowship Review Committee (2001–2)
- JHU Subcommittee on Electronic and Distance Education (1996–2002)
- Peabody Academic Council (1997–2001)
- Peabody Committee on Advanced Technologies (1994–2000)
- JHU Diversity Leadership Council (1997–9)
- Peabody Special Committee on Student Relations (Chair: 1997–9)
- Peabody Faculty Assembly (Vice Chair: 1997–9; Chair: 1999–2001)

Research Grants:

- Co-PI, FWO-SBO (Belgium) “The Sound of Music: Innovative research and valorization of plainchant through digital technology” (PI: David Burn) (2020/01–2023/12) €2,349,288 (McGill: €74,750)
- Academic Partner, Arts and Humanities Research Council (UK) “Cultural identity, evolution and transition in the cults of medieval Iberian saints” (PI: Emma Hornby) (2019/09–2022/08) £804,448 (McGill: £4,600)
- Co-PI, SSHRC Insight Grant “Mapping the Musical Landscape of the Sixteenth Century” (PI: Julie Cumming) (2019–24) \$339,772
- Co-PI, SSHRC Partnership Development Grant “Digital Analysis of Chant Transmission” (PI: Jennifer Bain) (2019–22) \$199,348
- PI, ComputeCanada, Resources for Research Groups Grant (2019–20) \$12,623
- Co-PI, CFI Cyberinfrastructure Initiative “LINCS: Linked Infrastructure for Networked Cultural Scholarship” (PI: Susan Brown) (2018–2021) \$2,000,000
- Co-PI, SSHRC Partnership Grant “Analysis, creation and teaching of orchestration (ACTOR)” (PI: Stephen McAdams) (2018–26) \$2,500,000
- Co-PI, SSHRC Partnership Development Grant “Technologies of notation and representation: Tenor network” (PI: Sandeep Bhagwati) (2018–21) \$199,460
- PI, ComputeCanada, Resources for Research Groups Grant (2018–9) \$12,426
- Co-PI, NSERC Strategic Projects: ICT (STPGP) “ANR Multimodal Analysis and Knowledge Inference for Musical Orchestration (MAKIMOno)” (2017/09–2020/09) \$551,773
- PI, ComputeCanada, Resources for Research Groups Grant (2017–8) \$2,560
- PI, FRQSC, Projets franco-québécois en sciences humaines et sociales “Recherche d’Information dans les corpus de musique notée” (2016–20) \$208,176
- Collaborator, Andrew W. Mellon Foundation “Enhancing Discovery and Access for Sound Collections” (2016–8) £70,000 (total: £408,411)
- PI, FRQSC, Research Team Support Grant “Music Information, Research, and Infrastructure” (2016–20) \$602,118
- PI, ComputeCanada, Resources for Research Groups Grant (2016–7) \$7,879
- Co-PI, SSHRC Connection Grant “The Music Encoding Conference 2016” (PI: Andrew Hankinson) (2015–16) \$24,027
- PI, SSHRC Partnership Grant “Single Interface for Music Score Searching and Analysis” (2014–21) \$2,726,697
- PI, SSHRC Insight Grant “Cantus ultimus: Building the ideal online plainchant research environment” (2014–19) \$499,694
- PI, FRQSC, Emerging Team Grant “Music Information, Research, and Infrastructure” (2014–17) \$54,963
- Co-PI, FQRSC Programme Regroupements Stratégiques “Centre for Interdisciplinary Research in Music Media and Technology” (PI: Isabelle Cossette) (2014–20) \$1,459,200
- Co-PI, SSHRC Partnership Grant “International institute for critical studies in improvisation: a partnered research institute” (PI: Ajay Heble) (2014–21) \$2,500,000
- PI, SSHRC Partnership Grant Letter of Intent “Single Interface for Music Score Searching and Analysis” (2013–4) \$20,000
- Co-PI, NEH Digital Humanities Start-up Grant: Level-II “Digital Prosopography for Renaissance Musicians: Discovery of Social and Professional Network” (PI: Susan F. Weiss) (2013–4) \$54,466US
- Co-PI, SSHRC Public Outreach Grant “Humanities dissemination & Making Publics using the Resource Description Framework” (PI: Matthew Milner) (2012–3) \$66,017
- Co-PI, SSHRC Digging into Data Challenge Grant “Electronic Location of Vertical Interval Successions” (PI: Julie Cumming) (2012–4) \$125,000
- Co-PI, SSHRC Insight Development Grant “Optical Neume Recognition Project” (PI: Jennifer Bain) (2012–4) \$74,633
- PI, SSHRC Insight Development Grant “Probabilistic Model for Music Content Analysis” (2011–3) \$73,998
- McGill Internal Paper Presentation Grant (2011) \$1,500
- PI, SSHRC Partnership Development Grant “Single Interface for Music Score Searching and Analysis” (2011–4) \$197,903

Co-PI, SSHRC Research Creation Grant “The art of harpsichord playing in the digital age: A computer-supported exploration of Couperin, basso continuo, and tuning” (PI: Hank Knox) (2011–4) \$248,925

PI, SSHRC Standard Research Grant “Optical music recognition of plainchant” (2010–3) \$141,393

PI, SSHRC Image, Text, Sound and Technology “Tracing the evolution of harmonic idioms in popular music through the late twentieth century” (2010–1) \$49,906

PI, SSHRC Digging into Data Challenge Grant “Structural Analysis of Large Amounts of Music Information” (2010–1) \$53,966

Co-PI, SSHRC Major Collaborative Research Initiatives Program “Advancing Interdisciplinary Research in Singing” (PI: Annabel J. Cohen) (2009–15) \$2,298,474

PI, FQRSC Programme soutien aux équipes de recherche “Evaluation perceptive de la qualité audio” (2008–10) \$59,434

PI, FQRSC Programme appui à la recherche-cr ation “Les techniques vocales du repertoire microtonale historique adapt es   la pratique moderne” (2008–11) \$143,756

Co-PI, Andrew W. Mellon Foundation “Networked Environment for Music Analysis” (2008–10) \$90,000US (PI: Stephen Downie, total: \$1,200,000)

PI, SSHRC Image, Text, Sound and Technology “Incorporating lyrics into optical recognition technology for early vocal music sources” (2008–9) \$49,932

PI, The Invitation Fellowship for Research in Japan (Long-Term), Japan Society for the Promotion of Science “Usability and cultural issues in designing digital music libraries” (2008–9) \$35,000

Co-PI, NSERC Major Resources Support Program: Infrastructure “Centre for Interdisciplinary Research in Music Media and Technology” (PI: Stephen McAdams) (2007–9) \$57,630

Co-PI, SSHRC Major Collaborative Research Initiatives Program “Improvisation, Community, and Social Practice” (PI: Ajay Heble) (2007–13) \$2,663,619

PI, SSHRC Image, Text, Sound and Technology “Enhancing optical music recognition technology of Early Music prints and manuscripts for musicological applications” (2007–8) \$49,943

PI, Audio-Visual Preservation Trust of Canada Music Memories Program “Schulich School of Music Archival Digitization Project” (2006–7) \$9,971

PI, Daniel Langlois Foundation Grant “Image-to-Audio conversion of phonograph records” (2006–7) \$35,000

PI, SSHRC Image, Text, Sound and Technology: Networking Grant “Metadata infrastructure for sound recordings” (2006–7) \$49,976

PI, SSHRC Standard Research Grant “Feasibility of digitizing Early Music on microfilms for the creation of large-scale content-searchable database” (2005–8) \$145,838

Co-PI, SSHRC-CURA (Community-University Research Alliances) “Documentation and Preservation of Media Art Heritage: Research and Case Studies” (PI: Alain Depocas) (2005–10) \$1,000,000

PI, CFI New Opportunities Grant “Distributed Digital Music Archives and Libraries” (2005–10) \$597,748

PI, Richard M. Tomlinson Digital Library Innovation and Access Award “Digitization of Edelberg Handel Collection: A Pilot Project” (2003–5) \$15,198

PI, FQRSC  tablissement de nouveaux-chercheurs volet individuel “Digitization of Vinyl Phonograph Records with Automatic Generation of Text and Metadata” (2003–6) \$64,628

PI, McGill Research Development Grant “Distributed Digital Music Library” (2003) \$38,500

Co-PI, FQRSC Regroupements strat giques “Centre for Interdisciplinary Research in Music Media and Technology” (2003–7) \$792,000

Co-PI, NSF Information Technology Research Grant “A Data Capture Framework and Testbed for Cultural Heritage Materials” (PI: Sayeed Choudhury) (2002–6) \$1,500,000US

Co-PI, IMLS National Leadership Grant “Digital Audio Archives Project” (PI: Sayeed Choudhury) (2004–7) \$229,352US

Co-PI, NSF Digital Libraries Initiative Grant “Digital Workflow Management: The Lester S. Levy Digitized Collection of Sheet Music, Phase Two” (PI: Sayeed Choudhury) (1999–2002) \$530,000US

Co-PI, Intel Technology for Education Grant “Scalable High Performance Computing Applications” (PI: Alex Szalay) (1999–2001) Peabody: \$154,000US (JHU: \$1,700,000US)

Awards:

- Best Paper Award. 2019. Information Processing Society of Japan, Computers and the Humanities Symposium ((JinMonCom) (¥30,000 / \$360CAD)
- Best Paper Award. 2019. Music Encoding Conference with Martha E. Thomae and Julie E. Cumming. Transforming Musicology Challenge Paper Prize (Digital Libraries 2014: Digital Library for Musicology Workshop) with Charalampos Saitis and Andrew Hankinson.
- Outstanding Paper Award. 2006. International Society for Music Information Retrieval (ISMIR) Conference with Cory McKay (\$500USD / \$650CAD)
- Literati Awards for Excellence: Outstanding paper. 2004. Emerald Publishing
- Best Presentation Award. 2000. International Computer Music Conference (ICMC)

Professional Affiliations:

- General Co-Chair, International Society for Music Information Retrieval Conference (2020)
- Board member, Music Encoding Initiative (2015–8)
- Advisory Board Member, “Fusing Audio and Semantic Technologies,” an EPSRC project (2014–2019)
- Advisory Panel, “Transforming Musicology,” an AHRC Large Grant project (2013–7)
- Member, Centre de recherche interuniversitaire sur les humanités numériques (CRIHN) (2013–)
- Guest Editor, *Signal Processing: Special Section: Ethnic Music Audio Documents* (2010)
- Advisory Board, IMLS funded research: *Improving Access to Digital Music through Content-based Analysis*. (2009–11)
- General Co-Chair, International Society for Music Information Retrieval Conference (2009)
- Scientific Advisory Board, International Conference on Music Perception and Cognition (2008)
- Reviewer, Canadian Association of Information Science Annual meeting (2008)
- Advisory Board, Journal of Interdisciplinary Music Studies (2007–)
- Advisory Board, Critical Studies in Improvisation (2007–)
- Guest Editor, EURASIP Journal on Advances in Signal Processing, *A Special Issue on Music Information Retrieval Based on Signal Processing* (2007)
- Paper Committee, co-chair, International Computer Music Conference (2006)
- Academic Committee, Judaic Sound Archives, Florida Atlantic University (2005–)
- FolkwaysAlive Academic Advisory Committee, University of Alberta (2005–6)
- Consultant, Mellon Foundation Research Grant: *A Scoping and Feasibility Study towards a Corpus of Encoded Scores of Classical Music* (2005)
- Journal of Music and Meaning, Editorial Board (2004–)
- Review Committee, SSHRC-MCRI Mid-term review (2004)
- Local Organization Committee and Technical Committee, New Interfaces for Musical Expression Conference (2003)
- Paper Committee, co-chair, Web Delivery of Music Conference (2003)
- Grants Review Committees: FQRSC Programme d'établissement de nouveaux chercheurs-créateurs (2003); FQRSC Programme de soutien aux regroupements de recherche-crédation (2003)
- Steering Committee, International Conference on Music Information Retrieval (2001–9)
- Final Papers Selection Panel, International Computer Music Conference (1999)
- Computing in Musicology, Editorial Advisor (1998–)
- International Musicological Society (1997–)
- Manager of Music Theory Online, Society of Music Theory (1997–2007)
- Local Organization Committee, American Musicological Society Meeting (1996)
- International Computer Music Association (1989–)
- Grant reviewer for American Association of the Advancement of Science (USA), Fonds de recherche du Québec – Société et culture (FRQSC), FWF Austrian Science Fund, Engineering and Physical Sciences Research Council (UK), IWT (Belgium), National Science and Engineering Council of Canada (NSERC), Netherlands Organization for Scientific Research, Physical Science Council (The Netherlands), Research Grants Council (Hong Kong), Social Sciences and Humanities Research Council of Canada (SSHRC)
- Paper reviewer for Computer Music Journal, Proceedings of IEEE, Journal of New Music Research, Critical Studies in Improvisation, Signal Processing, IEEE Transaction on Pattern Analysis and Machine Intelligence, EURASIP Journal on Audio, Speech, and Music Processing, EURASIP Journal on Image and Video Processing, Journal of Electronic Imaging, International Journal on Document Analysis and Recognition

Program Committees: IAPR International Conference on Document Analysis and Recognition (2017–); IAPR International Workshop on Graphic Recognition (2017–); Conference on Technologies for Music Notation and Representation (2015–); Journées d’Informatique Musicale (2015), International Workshop on Digital Libraries for Musicology (2014); Society for Mathematics and Computation in Music (2013); Joint Conference on Digital Libraries (2010); Computer Music Modeling and Retrieval Conference (2008); Canadian Association of Information Science Annual meeting (2008); New Interfaces for Musical Expression Conference (2007–9); AXMEDIS (2006); DAFx (Digital Audio Effects) Conference (2006); Information Resource Management Association Conference (2005); International Conference on Automated Production of Cross Media Content for Multi-channel Distribution (2005); Conference on the Art of Record Production (2005); Web Delivery of Music Conference (2004); International Society of Music Information Retrieval Conference (2001–); International Computer Music Conference (1996–2007)

PUBLICATIONS

Refereed book chapters

- Fujinaga, Ichiro, Andrew Hankinson, and Laurent Pugin. 2018. "Automatic Score Extraction with Optical Music Recognition." In *Current Research in Systematic Musicology*, edited by Rolf Bader, 299–311. Heidelberg: Springer.
- Burgoyne, John Ashley, Ichiro Fujinaga, and J. Stephen Downie. 2016. "Music Information Retrieval." In *A New Companion to Digital Humanities*, edited by Susan Schreibman, Ray G. Siemens, and John Unsworth, 213–38. Oxford: Wiley-Blackwell Publishing.
- McKay, Cory, and Ichiro Fujinaga. 2012. "Expressing Musical Features, Class Labels, Ontologies, and Metadata Using ACE XML 2.0." In *Structuring Music through Markup Language: Designs and Architectures*, edited by Jacques Steyn, 47–79. Hershey, PA: IGI Global.
- Weiss, Susan Forscher, and Ichiro Fujinaga. 2008. "Electronic Sound." In *Renaissance Studies*, edited by William R. Bowen and Ray G. Siemens, 93–100. Tempe, AZ: Iter Inc.
- Fujinaga, Ichiro, and Susan Forscher Weiss. 2004. "Music." In *Blackwell Companion to Digital Humanities*, edited by Susan Schreibman, Ray G. Siemens, and John Unsworth, 97–107. Oxford: Blackwell Publishing.
- Fujinaga, Ichiro. 2004. "Staff Detection and Removal." In *Visual Perception of Music Notation*, edited by Susan George, 1–39. Hershey, PA: Idea Group Inc.
- Droettboom, Michael, Ichiro Fujinaga, and Karl McMillan. 2002. "Optical music interpretation." In *Statistical Pattern Recognition*, edited by A. Amin, R. Duin, M. Kamel, D. de Ridder, and T. Caelli, 378–86. Berlin: Springer-Verlag.
- Fujinaga, Ichiro, Stephan Moore, and David S. Sullivan. 1999. "Implementation of Exemplar-Based Learning Model for Music Cognition." In *Music, Mind, and Science*, edited by S. W. Yi, 69–81. Seoul: Seoul National University Press.

Refereed journal papers

- De Luca, Elsa, Jennifer Bain, Inga Behrendt, Ichiro Fujinaga, Kate Helsen, Alessandra Ignesti, Debra Lacoste, and Sarah Ann Long. 2019. "Capturing Early Notations in MEI: The Case of Old Hispanic Neumes." *Zeitschrift der Gesellschaft für Musiktheorie* 16 (3): 227–247.
- Calvo-Zaragoza, Jorge, Francisco J. Castellanos, Gabriel Vigliensoni, and Ichiro Fujinaga. 2018. "Deep Neural Networks for Document Processing of Music Score Images." *Applied Sciences* 8 (5): 654–657.
- Siedenburg, Kai, Ichiro Fujinaga, and Stephen McAdams. 2016. "A Comparison of Approaches to Timbre Descriptors in Music Information Retrieval and Music Psychology." *Journal of New Music Research* 45 (1): 27–41. doi:10.1080/09298215.2015.1132737.
- Helsen, Kate, Jennifer Bain, Ichiro Fujinaga, Andrew Hankinson, and Debra Lacoste. 2014. "Optical Music Recognition and Manuscript Chant Sources." *Early Music* 42 (4): 555–8. doi:10.1093/em/cau092.
- Goebel, Werner, Roberto Bresin, and Ichiro Fujinaga. 2014. "Perception of Touch Quality in Piano Tones." *Journal of the Acoustical Society of America* 136 (5): 2839–50. doi:10.1121/1.4896461.
- Pugin, Laurent, Andrew Hankinson, and Ichiro Fujinaga. 2012. "Digital Preservation and Access Strategies for Musical Heritage: The Swiss RISM Experience." *OCLC Systems and Services* 28 (1): 43–55.
- Rebelo, Ana, Ichiro Fujinaga, Filipe Paszkiewicz, Andre R.S. Marcal, Carlos Guedes, and Jaime S. Cardoso. 2012. "Optical Music Recognition: State-of-the-Art and Open Issues." *International Journal of Multimedia Information Retrieval* 1 (3): 173–90.
- De Roure, David, Kevin R. Page, Benjamin Fields, Tim Crawford, Ichiro Fujinaga, and J. Stephen Downie. 2011. "An E-Research Approach to Web-Scale Music Analysis." *Philosophical Transactions of Royal Society A* 369: 3300–17.
- Devaney, Johanna, Michael I. Mandel, Daniel P.W. Ellis, and Ichiro Fujinaga. 2011. "Automatically Extracting Performance Data from Recordings of Trained Singers." *Psychomusicology: Music, Mind & Brain* 21 (1–2): 108–36.
- Hankinson, Andrew, Wendy Liu, Laurent Pugin, and Ichiro Fujinaga. 2011. "Diva.js: A Continuous Document Viewing Interface." *Code4Lib Journal* 2011 (14).
- Weiss, Susan Forscher, and Ichiro Fujinaga. 2011. "New Evidence for the Origin of Kettledrums in Western Europe." *Journal of the American Music Instrument Society* 37: 5–18.
- Canazza, Sergio, Antonio Camurri, and Ichiro Fujinaga. 2010. "Ethnic Music Audio Documents: From Preservation to Fruition." *Signal Processing* 90 (4): 977–80.
- Dalitz, Christoph, Michael Droettboom, Bastian Czerwinski, and Ichiro Fujinaga. 2008. "A Comparative Study of Staff Removal Algorithms." *IEEE Transactions on Pattern Analysis and Machine Intelligence* 30 (5): 753–66. doi:10.1109/TPAMI.2007.70749.

PUBLICATIONS (cont.)

- Fujinaga, Ichiro, Masataka Goto, and George Tzanetakis, eds. 2007. "Music Information Retrieval Based on Signal Processing." *EURASIP Journal on Advances in Signal Processing* 2007 2007. doi:10.1155/2007/86874.
- Fujinaga, Ichiro. 2005. "Distributed Digital Music Archives and Libraries." *The Journal of the Acoustical Society of America* 118: 2031. doi:http://dx.doi.org/10.1121/1.4785792.
- Riley, Jenn, and Ichiro Fujinaga. 2003. "Recommended Best Practices for Digital Image Capture of Musical Scores." *OCLC Systems and Services* 19 (2): 62–9.
- Weiss, Susan Forscher, and Ichiro Fujinaga. 2000. "A study of early music on CD-ROM." *Early Modern Literary Studies* 5.3 4: 3–1.
- Choudhury, G.Sayeed, Cynthia Requardt, Ichiro Fujinaga, Tim DiLauro, Elizabeth W. Brown, James W. Warner, and Brian Harrington. 2000. "Digital Workflow Management: The Lester S. Levy Digitized Collection of Sheet Music." *First Monday* 5 (6). http://firstmonday.org/issues/issue5_6/choudhury/index.html.
- Yoo, Lilit, and Ichiro Fujinaga. 1998. "ZETA violin techniques: Limitations and applications." *Journal SEAMUS* 13 (2): 12–5.
- Fujinaga, Ichiro, Bruce Pennycook, and Bo Alphonse. 1991. "The Optical Music Recognition Project." *Computers in Music Research* 3: 139–42.
- Fujinaga, Ichiro, Bo Alphonse, Bruce Pennycook, and Nathalie Boisvert. 1989. "Optical Recognition of Music Notation by Computer." *Computers in Music Research* 1: 161–4.

Refereed conference papers

- Fujinaga, Ichiro. 2019. "Single Interface for Music Score Searching and Analysis (SIMSSA) Project: Optical Music Recognition Workflow for Neume Notation." In *Proceedings of the Computers and the Humanities Symposium (JinMonCom)*, Vol. 2019 (1): 281–286. Osaka, Japan: Information Processing Society of Japan. (Best Paper Award).
- de Reuse, Timothy, and Ichiro Fujinaga. 2019. "Robust Transcript Alignment on Medieval Chant Manuscripts." In *Proceedings of the 2nd International Workshop on Reading Music Systems*. Delft, Netherlands, 21–26.
- de Reuse, Timothy, and Ichiro Fujinaga. 2019. "Pattern Clustering in Monophonic Music by Learning a Non-Linear Embedding from Human Annotations." In *Proceedings of the 20th International Society for Music Information Retrieval Conference*. Delft, Netherlands, 761–768.
- Ju, Yaolong, Samuel Howes, Cory McKay, Nathaniel Condit-Schultz, Jorge Calvo-Zaragoza, and Ichiro Fujinaga. 2019. "An Interactive Workflow for Generating Chord Labels for Homorhythmic Music in Symbolic Formats." In *Proceedings of the 20th International Society for Music Information Retrieval Conference*. Delft, Netherlands, 862–869.
- Gover, Matan, and Ichiro Fujinaga. 2019. "A Notation-Based Query Language for Searching in Symbolic Music." In *Proceedings of the 6th International Workshop on Digital Libraries for Musicology*. The Hague, Netherlands: ACM, 79–83.
- Nápoles López, Néstor, Claire Arthur, and Ichiro Fujinaga. 2019. "Key-Finding Based on a Hidden Markov Model and Key Profiles." In *Proceedings of the 6th International Workshop on Digital Libraries for Musicology*. The Hague, Netherlands: ACM, 33–37.
- Thomae, Martha E., Julie E. Cumming, and Ichiro Fujinaga. 2019. "The Mensural Scoring-Up Tool." In *Proceedings of the 6th International Workshop on Digital Libraries for Musicology*. The Hague, Netherlands: ACM, 9–19.
- Fujinaga, Ichiro, and Gabriel Vigliensoni. 2019. "The Art of Teaching Computers: The SIMSSA Optical Music Recognition Workflow System." In *Proceedings of the European Signal Processing Conference*, 330–334. A Coruña, Spain. <http://eusipco2019.org/Proceedings/papers/1570533142.pdf>.
- McKay, Cory, Julie Cumming, and Ichiro Fujinaga. 2018. "jSymbolic 2.2: Extracting Features from Symbolic Music for Use in Musicological and MIR Research." In *Proceedings of the 19th International Society for Music Information Retrieval Conference*, 348–354. Paris, France.
- Condit-Schultz, Nat, Yaolong Ju, and Ichiro Fujinaga. 2018. "A Flexible Approach to Automated Harmonic Analysis: Multiple Annotations of Chorales by Bach and Prætorius." In *Proceedings of the 19th International Society for Music Information Retrieval Conference*, 66–73. Paris, France.
- Vigliensoni, Gabriel, Jorge Calvo-Zaragoza, and Ichiro Fujinaga. 2018. "An Environment for Machine Pedagogy: Learning How to Teach Computers to Read Music." In *Joint Proceedings of the ACM Intelligent User Interface Workshops: Intelligent Music Interfaces for Listening and Creation (MILC)*. Tokyo, Japan.
- Vigliensoni, Gabriel, Jorge Calvo-Zaragoza, and Ichiro Fujinaga. 2018. "Developing an Environment for Teaching Computers to Read Music." In *Proceedings of the 1st International Workshop on Reading Music Systems*, 27–28. Paris, France.

PUBLICATIONS (cont.)

- Castellanos, Francisco, Jorge Calvo-Zaragoza, Gabriel Vigliensoni, and Ichiro Fujinaga. 2018. "Document Analysis of Music Score Images with Selectional Auto Encoders." In *Proceedings of the 19th International Society for Music Information Retrieval Conference*, 256–263. Paris, France.
- Nápoles, Néstor, Gabriel Vigliensoni, and Ichiro Fujinaga. 2018. "Encoding Matters." In *Proceedings of the 5th International Conference on Digital Libraries for Musicology*, 69–73. Paris, France.
- Cumming, Julie E., Cory McKay, Jonathan Stuchbery, and Ichiro Fujinaga. 2018. "Methodologies for Creating Symbolic Corpora of Western Music before 1600." In *Proceedings of the International Society for Music Information Retrieval Conference*, 491–498. Paris, France.
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- Hoshishiba, Takayuki, Susumu Horiguchi, and Ichiro Fujinaga. 1995. "Computer Performance of Piano Music with Normative Performance Data." IS-RR-95-0014I.
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- Fujinaga, Ichiro. 1988. "Optical Music Recognition Using Projections." Master's Thesis, Montreal: McGill University.

INVITED TALKS

Invited Talks

- Canadian Workshop on Linked Open Data for Cultural Scholarship, Banff, AB, 14 September 2019. *Single Interface for Music Score Searching and Analysis (SIMSSA) Project and Linked Open Data*.
- International Conference on Digital Libraries for Musicology, The Hague, Netherlands, July 2019. *SIMSSA DB: Symbolic Music Discovery and Search*, with Emily Hopkins, Yaolong Ju, Gustavo Polins Pedro, Cory McKay, and Julie Cumming. Refereed (poster).
- International Musicological Society (IMS) Digital Musicology Study Group Workshop, Utrecht, Netherlands, 9 July 2019. *Update on the SIMSSA Project*.
- Digital Humanities Conference, Utrecht, Netherlands, July 2019. *Taking Digital Humanities to Guatemala, a Case Study in the Preservation of Colonial Musical Heritage*, with Martha E. Thomae and Julie Cumming. Refereed.
- Digital Humanities Conference, Utrecht, Netherlands, July 2019. *Overcoming the Challenges of Optical Music Recognition of Early Music with Machine Learning*, with Gabriel Vigliensoni, Alex Daigle, Eric Liu, Jorge Calvo-Zaragoza, Juliette Regimbal, Minh Anh Nguyen, Noah Baxter, and Zoé McLennan. Refereed.
- Digital Humanities Conference, Utrecht, Netherlands, July 2019. *Lessons Learned in a Large-Scale Project to Digitize and Computationally Analyze Musical Scores*, with Cory McKay and Julie Cumming. Refereed.
- TU Wien, Vienna, Austria, 4 July 2019. *The Art of Teaching Computers: The SIMSSA Optical Music Recognition Workflow System*.
- Music Encoding Conference, University of Vienna, Vienna, Austria, 31 May 2019. *From Image to Encoding: Full Optical Music Recognition of Medieval and Renaissance Music*, with Gabriel Vigliensoni, Alex Daigle, Eric Liu, Jorge Calvo-Zaragoza, Juliette Regimbal, Minh Anh Nguyen, Noah Baxter, and Zoé McLennan. Refereed.
- Music Encoding Conference, University of Vienna, Vienna, Austria, 31 May 2019. *Neon2: A Verovio-based Square-Notation Editor*, with Juliette Regimbal, Zoé McLennan, Gabriel Vigliensoni, and Andrew Tran. Refereed.
- Music Encoding Conference, University of Vienna, Vienna, Austria, 31 May 2019. *Application of Music-Encoding Technologies to Guatemalan Choirbooks, Facilitating Preservation and Musicological Studies of the Colonial Repertoire*, with Martha E. Thomae, Julie E. Cumming. Refereed. (Best Paper Award).
- Music Encoding Conference, University of Vienna, Vienna, Austria, 30 May 2019. *The Effects of Translation between Symbolic Music Formats: A Case Study with Humdrum, Lilypond, MEI, and MusicXML*, with Néstor, Nápoles Lopez, and Gabriel Vigliensoni. Refereed (poster).
- Music Encoding Conference, University of Vienna, Vienna, Austria, 30 May 2019. *Cantus Ultimus' MEI Neume Module and its Interoperability Across Chant Notations*, with Elsa De Luca, Jennifer Bain, Inga Behrendt, Kate Helsen, Alessandra Ignesti, Debra Lacoste, and Sarah Ann Long. Refereed.
- Music Encoding Conference, University of Vienna, Vienna, Austria, 30 May 2019. *Enabling Music Search and Analysis: A Database for Symbolic Music Files*, with Yaolong Ju, Gustavo Polins Pedro, Cory McKay, Emily Ann Hopkins, and Julie Cumming. Refereed.
- Academia Sinica, Taipei, Taiwan, 29 March 2019. *The Art of Teaching Computers: The SIMSSA Optical Music Recognition Workflow System*.
- The University of Hong Kong, Hong Kong, 26 March 2019. *The Art of Teaching Computers: The SIMSSA Optical Music Recognition Workflow System*.
- Hakodate Future University, Hakodate, Japan, 22 January 2019. *The Art of Teaching Computers: The SIMSSA Optical Music Recognition Workflow System*.
- Doctoral Colloquium, Schulich School of Music, McGill University, 23 November 2018. *The Art of Teaching Computers: The SIMSSA Optical Music Recognition Workflow System*.
- Tutorial at International Society of Music Information Retrieval Conference 23 September 2018. *Optical Music Recognition for Dummies*, with Jorge Calvo-Zaragoza, Jan Hajičr., and Alexander Pacha. Video: <https://omr-research.net/2018/11/23/getting-started/>
- IMS Study Group Meeting for Cantus Planus, Linnaeus University, Växjö, Sweden, 7 August 2018. *'A Neume by Any Other Name...': Considering Neumes Described in MEI*, with Kate Helsen, Inga Behrendt, Elsa De Luca, Alessandra Ignesti, Debra Lacoste, and Sarah Long. Refereed.
- Music Encoding Conference, University of Maryland, College Park, MD, 22 May 2018. *Automatic Scoring up of Music in Mensural Notation*, with Martha Thomae and Julie Cumming. Refereed.
- Music Encoding Conference, University of Maryland, College Park, MD, 22 May 2018. *Human-Aided Automatic Music Document Analysis*. with Jorge Calvo-Zaragoza, Ké Zhang, Zeyad Saleh, and Gabriel Vigliensoni. Refereed.

INVITED TALKS (cont.)

- Information Processing Society of Japan, Special Interest Group on Music and Computer, Summer Symposium, Hiroshima, Japan, 21 August 2018. Keynote Speaker. *The Art of Teaching Computers: The SIMSSA Optical Music Recognition Workflow*.
- International Conference on Image Processing Theory, Tools and Applications, Montreal, QC, 30 November 2017. *Pixelwise Classification for Music Document Layout Analysis*, with Jorge Calvo-Zaragoza (presenter) and Gabriel Vigliensoni. Refereed.
- International Workshop on Digital Libraries for Musicology, Shanghai, China, 28 October 2017. *A Database Model for Computational Music Research*, with Cory McKay, Andrew Hankinson, and Julie Cumming. Refereed (poster).
- International Society for Music Information Retrieval Conference: Late-breaking Demo Session, Suzhou, China, 27 October 2017. Characterizing Composers using jSymbolic2 Features, with Cory McKay (presenter), Julie Cumming. Refereed.
- The IIF Conference, The Vatican, Italy, 7 June 2017. *Tripoli: Presentation API Validation and Correction* with Alex Parmentier and Andrew Hankinson. Refereed (poster).
- Music Encoding Conference, University of Tours, Tours, France, 18 May 2017. *About Agnostic Representation Of Musical Documents for Optical Music Recognition*, with Jorge Calvo-Zaragoza, David Rizo, Jose M. Iñesta. Refereed (poster).
- Music Encoding Conference, University of Tours, Tours, France, 17 May 2017. *Integrating the International Image Interoperability Framework (IIIF) with MEI*, with Andrew Hankinson (presenter). Refereed.
- Music Encoding Conference, University of Tours, Tours, France, 17 May 2017. *A Unified Approach towards Automatic Recognition of Heterogeneous Music Documents* with Jorge Calvo-Zaragoza (presenter) and Gabriel Vigliensoni. Refereed.
- International Musicological Society Congress, Tokyo, Japan, 19 March 2017. *Large-Corpus Music Research* with Julie Cumming, Andrew Hankinson, Reiner Krämer, Cory McKay, Peter Schubert, and Jon Wild. Refereed.
- The 3rd International Digital Libraries for Musicology workshop (DLfM 2016), New York, NY, 12 August 2016. *The Human History Project: Digital Prosopography of Renaissance Musicians*. Poster with Susan Forscher Weiss. Refereed.
- International Society for Music Information Retrieval Conference: Late-breaking Demo Session, New York, NY, 11 August 2016. *jSymbolic2: Extracting Features from Symbolic Music Representations*, with Cory McKay (presenter), Triatan Tenaglia, and Julie Cumming. Refereed.
- Music Encoding Conference, Montreal. 19 May 2016. *Harker's XML: The Optical Neume Recognition Project and MEI* with Katherine Helsen, Jennifer Bain, Andrew Hankinson, Inga Behrendt, and Ichiro Fujinaga. Refereed.
- Music Encoding Conference, Montreal. 19 May 2016. *An MEI Score Alignment Application* with Andrew Horwitz, Andrew Hankinson, and Ichiro Fujinaga. Refereed (poster).
- The Annual Meeting of Renaissance Society of America, Boston, MA, 1 April 2016. *Web-Based Optical Music Recognition for Renaissance Printed Music with Aruspix and Rodan*. Presented by Andrew Hankinson. Refereed.
- The 132nd Research Center for Knowledge Communities Colloquium, Tsukuba University, Tsukuba, Japan. 17 March 2016. *Human History Project*.
- Hakodate Future University, Hakodate, Japan, 7 March 2016. *Human History Project. The Research Program of the Distributed Digital Music Archives and Libraries Laboratory, Single Interface for Music Score Searching and Analysis*.
- Queen Mary, University of London, London, UK, 18 February 2016. C4DM Seminar: *The Research Program of the Distributed Digital Music Archives and Libraries Laboratory*.
- Fusing Audio and Semantic Technologies for Intelligent Music Production and Consumption (FAST) 2nd All-Hands Meeting, Paris, France, 16 February 2016. Keynote Speaker. *Single Interface for Music Score Searching and Analysis*.
- University of Kyoto, Kyoto, Japan. 28 January 2016. *The Research Program of the Distributed Digital Music Archives and Libraries Laboratory*.
- The 129th Research Center for Knowledge Communities Colloquium, Tsukuba University, Tsukuba, Japan. 26 January 2016. *Single Interface for Music Score Searching and Analysis*.
- Japan Advanced Institute of Science and Technology (JAIST), Kanazawa, Japan. 21 January 2016. *Human History Project*.
- School of Information Studies Research Seminar, McGill University, Montreal. 13 November 2015. *The Research Program of the Distributed Digital Music Archives and Libraries Laboratory*.

INVITED TALKS (cont.)

- Universitat Pompeu Fabra, Barcelona, Spain. 5 November 2015. *Single Interface for Music Score Searching and Analysis Project*.
- University of Alicante, Alicante, Spain. 2 November 2015. *Single Interface for Music Score Searching and Analysis Project*.
- International Society for Music Information Retrieval Conference, Malaga, Spain. 30 October 2015. Cory McKay and Ichiro Fujinaga. *Building an infrastructure for a 21st-century global music library*. Refereed (poser).
- CCS Colloquium, University of Virginia. 2 October 2015. *10 Years of Innovation in Music Digitization & Dissemination*.
- Department of Music, University of Virginia. 1 October 2015. *Single Interface for Music Score Searching and Analysis*.
- SSHRC Digital Workshop, Ottawa. 30 September 2015. *Music Information Retrieval*.
- Oxford eResearch Centre Seminar. 28 July 2015. *Research Program of the Distributed Digital Music Archives and Libraries Laboratory*.
- Transforming Musicology Event at Oxford eResearch Centre, 27 July 2015. *SIMSSA: Single Interface for Music Score Searching and Analysis*.
- Digital Humanities at Oxford Summer School 2015, 20 July 2015. *SIMSSA: Single Interface for Music Score Searching and Analysis*. (Poster)
- International Association of Music Libraries, Archives and Documentation Centres (IAML) / International Musicological Society (IMS) Congress, 23 June 2015. Andrew Hankinson and Ichiro Fujinaga. *An introduction to tools and practices for the Music Encoding Initiative*. Refereed.
- International Association of Music Libraries, Archives and Documentation Centres (IAML) / International Musicological Society (IMS) Congress, 22 June 2015. Susan Forscher Weiss and Ichiro Fujinaga. *Digital prosopography of Renaissance musicians*. Refereed.
- Music Encoding Conference, Florence, Italy. 19 May 2015. Andrew F. Fogarty, Andrew Hankinson, and Ichiro. Fujinaga. *A browser-based neume metadata editor*. Refereed.
- Music Encoding Conference, Florence, Italy. 19 May 2015. Andrew Horwitz, Andrew Hankinson, and Ichiro. Fujinaga. *A browser-based MEI editor*. Refereed.
- Journées d'Informatique Musicale, Montreal. 8 May 2015. Audrey Laplante, Andrew Hankinson, Julie E. Cumming, and Ichiro Fujinaga. *SIMSSA : Une interface unique pour la recherche et l'analyse de millions de partitions musicales numériques*. Refereed.
- Music Encoding Initiative Workshop. Detmold, Germany. 24 May 2015. *SIMSSA: Single Interface for Music Score Searching and Analysis: An overview*.
- The Annual Meeting of the Renaissance Society of America, Berlin. 26 March 2015. *A Report on the Digital Prosopography of Renaissance Musicians*. Refereed.
- The Annual Meeting of the Renaissance Society of America, New York, NY. 27 March 2014. *Digital Prosopography of Renaissance Musicians: A Progress Report*. Refereed.
- Japan Society for Sonic Arts: Keynote Speech, Tokyo, Japan. 2 November 2014. *SIMSSA: Single Interface for Music Score Searching and Analysis*, with Andrew Hankinson.
- HathiTrust Research Centre, Chicago, IL. 20 February 2014. *Finding music scores in books*, with D. Bainbridge.
- McGill Digital Humanities Work in Progress Talk, McGill University, Montreal. 9 February 2014. *Human History Project: Storing documented human history into a database*.
- École Polytechnique de Montréal, Montreal. 19 November 2013. *Digital Prosopography of Renaissance Musicians*.
- Escuela Universitaria de Música, Montevideo, Uruguay. 11 November 2013. *Interfaz Única para la Búsqueda y Análisis de Partituras (SIMSSA)*.
- McGill Medievalists "Works-in-Progress Series" McGill University, Montreal, QC. 23 October 2013. *Optical Music Recognition of Medieval Music*.
- International Association of Music Librarians Conference, Vienna. 2 August 2013. Andrew Hankinson and Ichiro Fujinaga. *Using optical music recognition to navigate and retrieve music documents*.
- Colloquium at The Catapult Center for Digital Humanities and Computational Analysis of Texts, Indiana University, Bloomington, IN. 22 March 2013. *The Research Program at the Distributed Digital Music Archives and Libraries Laboratory*.
- Computer Science Department, Dalhousie University. Halifax, NS. 20 March 2013. *Current Research at the Distributed Digital Music Archives and Libraries Laboratory*.
- School of Information Studies, McGill University, Montreal. 22 February 2013. *Machine learning in Digital Humanities and the importance of ground-truth data*.

INVITED TALKS (cont.)

- American Musicological Society Meeting, New Orleans, LA. 1 November 2012. *SIMSSA: Single Interface for Music Score Searching and Analysis*.
- Peabody Conservatory of Music, The Johns Hopkins University, Baltimore, MA. 31 October 2012. *Current research at distributed digital music archives and libraries laboratory*.
- International Association of Music Librarians Conference, Montreal. 23 July 2012. *SIMSSA: Single Interface for Music Score Searching and Analysis*.
- International Musicological Society Congress, Rome, Italy. 7 July 2012. *SIMSSA: Single Interface for Music Score Searching and Analysis*.
- Cornell University, Ithaca, NY. 12 May 2012. Music: Cognition, Technology, Society: Keynote Speaker. *The research program at the distributed digital music archives and libraries laboratory*.
- Public Digital Humanities Roundtable, McGill University. 30 April 2012. *Music Archivists Without Borders*.
- IRAB Audio Digitization Workshop, Beirut, Lebanon. 19 April 2012. *Introduction to metadata and metadata for audio*.
- International Workshop on Advances in Music Information Research, Lyon, France. 17 April 2012. A. Hankinson, J. A. Burgoyne, G. Vigliensoni, and I. Fujinaga. *Creating large-scale searchable digital collections from printed music materials*.
- Renaissance Society of America Annual Meeting, Washington, DC. 24 March 2012. *Digital prosopography of Renaissance musicians: Discovery of social and professional network*, with S. Weiss.
- New York University, New York, NY. 3 March 2012. *SIMSSA: Single Interface for Music Score Searching and Analysis*.
- McGill University, School of Information Studies, 17 October 2011. *Distributed digital music archives and libraries*.
- NFAIS Humanities Roundtable, New York, NY. 3 October 2011. *Two current research projects in music information retrieval at distributed digital music archives and libraries laboratory*.
- Osaka Symposium on Digital Humanities. Osaka, Japan. 2011. J. S. Downie, D. De Roure and I. Fujinaga. *Large-scale music audio analyses using high performance computing technologies: Creating new tools, posing new questions*.
- INESC Porto, Porto Portugal. 18 July 2011. *Distributed digital music archives and libraries*.
- Universitat Pompeu Fabra, Barcelona, Spain. 4 July 2011. *Current research at distributed digital music archives and libraries laboratory*.
- Joint Conference on Digital Libraries, Ottawa, ON. 14 June 2011. *The structural analysis of large amounts of music (SALAMI) project*.
- Digging Into Data Challenge Conference, Washington, DC. 10 June 2011. *The structural analysis of large amounts of music (SALAMI) project*.
- Télécom Paris Tech, Paris. 29 November 2010. *Distributed digital music archives and libraries*.
- Université de Montréal, Montreal, PQ. 30 September 2010. *Distributed digital music archives and libraries*.
- Queen's University, Belfast, UK. 23 September 2010. *Distributed digital music archives and libraries laboratory*.
- University of Oxford, Oxford, UK. 22 September 2010. *Optical music recognition research at McGill*.
- Singapore National University, Singapore. 2 August 2010. *Distributed digital music archives and libraries project*.
- ACM International Conference on Multimedia Information Retrieval. Philadelphia, PA. 31 March 2010. *Improving automatic music classification performance by extracting features from different types of data*, with C. McKay.
- North East Music Informatics Special Interest Group (NEMISIG) Workshop, New York University, New York, NY. 29 January 2010. *Distributed digital music archives and libraries laboratory*.
- e-Science for Musicology Workshop, Edinburgh, UK. 2 July 2009. *Distributed digital music archives and libraries laboratory*.
- Joint Conference on Digital Libraries Workshop, Austin, TX. 20 June 2009. *Networked Environment for Music Analysis: An overview*.
- HITS for Education Conference: Keynote Speaker, Charlottetown, PEI. 26 June 2009. *Distributed digital music archives and libraries*.
- Department of Engineering, University of Tsukuba, Tsukuba, Japan. 28 April 2009. *Distributed digital music archives and libraries*.
- Center for Advanced Sound Technologies, Yamaha Corporation, Hamamatsu, Japan. 15 April 2009. *Distributed digital music archives and libraries*.

INVITED TALKS (cont.)

- Toho Gakuen School of Music hosted by the Society of Music History and the Associazione Musica Antica Italiana in Giappone, Tokyo, Japan. 25 March 2009. *Iconographic evidence of kettledrums in 14th-century Northern Italy* with S. Weiss.
- Showa Academy Musicae, Tokyo, Japan. 24 February 2009. *Distributed digital music archives and libraries*.
- Tokyo University, Tokyo, Japan. 20 February 2009. *Distributed digital music archives and libraries*.
- SIGMUS (Special Interest Group on Music and Computer) Meeting of the Information Processing Society of Japan: Keynote Speaker, Tokyo, Japan. 17 February 2009. *Distributed digital music archives and libraries*.
- Graduate School of Library and Information Science, University of Tsukuba, Tsukuba, Japan. 13 January 2009. *Distributed digital music archives and libraries*.
- Tokyo University of the Arts, Tokyo, Japan. 2 December 2008. *Distributed digital music archives and libraries*.
- Japan Advanced Institute of Science and Technology, Kanazawa, Japan. 20 November 2008. *Distributed digital music archives and libraries*.
- Keio University, Tokyo, Japan. 6 November 2008. *Distributed digital music archives and libraries*.
- Tokyo University, Tokyo, Japan. 22 October 2008. *Music and biomechanics*.
- Osaka University, Osaka, Japan. 16 October 2008. *Distributed digital music archives and libraries*.
- Kwansei Gakuin University, Nishinomiya, Japan. 14 October 2008. *Distributed digital music archives and libraries*.
- 18th Conference of International Society for the Research and Promotion of Wind Music (IGEB), Echternach, Luxembourg. 11 July 2008. *Evidence of kettledrums in late Medieval Italy* with S. Weiss.
- City University of New York. 8 May 2008. *New evidence for the origins of timpani in Western Europe* with S. Weiss.
- Music Library Association. 77th Annual Meeting. Newport, RI. 22 February 2008. *Metadata infrastructure for Sound recordings*. (Poster with C. Lai, D. Descheneau, M. Frishkopf, J. Riley, J. Hafner, and B. MsMillan).
- North East Music Informatics Special Interest Group (NEMISIG) Workshop, Columbia University, New York, NY. 25 January 2008. *Distributed digital music archives and libraries laboratory*.
- Peabody Conservatory of Music, the Johns Hopkins University, Baltimore, MD. 28 November 2007. *Iconographic evidence of kettledrums in 14th-century Northern Italy* with S. Weiss.
- American Musicological Society meeting: American Music Instrument Society Study Session, Quebec City, QC. 3 November 2007. *Iconographic evidence of kettledrums in 14th-century Northern Italy* with S. Weiss.
- Pop & Policy Conference 2007. McGill University, Montreal, QC. 6 October 2007. *The Archival Restoration Preservation Society*. Panelist.
- 36th Annual Meeting of American Music Instrument Society, New Haven, CT. 28 June 2007. *Iconographic evidence of kettledrums in 14th-century Northern Italy* with S. Weiss.
- Canadian University Music Society/Canadian Association of Music Libraries, Archives, and Documentation Centres. 2007 Annual joint Conference. Faculty of Music, University of Montreal, Montreal, QC. 12 May 2007. *Distributed digital music archives and libraries*.
- Universitat Pompeu Fabra, Barcelona, Spain. 22 February 2007. *Distributed digital music archives and libraries*.
- Digital Music Research Network Workshop 2006, Queen Mary, University of London, London, UK. 20 December 2006. *Distributed digital music archives and libraries*.
- Ecole d'ingenieurs et d'architectes de Fribourg, Switzerland. 26 June 2006. *Two approaches to optical music recognition* with Laurent Pugin.
- 150th Meeting of the Acoustic Society of America, Minneapolis, MN. 21 October 2005. *Distributed digital music archives and libraries*. *Journal of Acoustical Society of America* 118 (3): 2031.
- Summit on Digital Tools for the Humanities, University of Virginia, Charlottesville, VA. 28–30 September 2005. *Metasearch and on-demand metadata extraction*.
- The Art of Record Production Conference, University of Westminster, London, UK. 17–8 September 2005. *A guideline and a metadata schema for building a global database of music recordings*.
- SIGGRAPH Local Chapter meeting, Montreal, QC. 22 March 2005. *Distributed digital music archives and libraries*.
- DIAMM Workshop II, University of Oxford, Oxford, UK. 29–30 July 2004. *Creation of searchable database for noteshapes*.
- Online Chopin Variorum Edition Workshop, University of Pennsylvania, Philadelphia, PA. 26–27 May 2004. *Levy Sheet music project and optical music recognition: Introducing Gamut*.
- Renaissance Society of America Annual Meeting, New York, NY. 2 April 2004. *From manuscript to printing press to computer chip: Studying early music in digital format*, with S. Weiss.
- DIAMM Workshop, Oxford University, Oxford, UK. 27–28 November 2003. *Levy Sheet music project and optical music recognition*.
- Music Technology Area Colloquium. McGill University, Montréal, QC. 13 September 2002. *Gamera: Optical music recognition in a new shell*.

INVITED TALKS (cont.)

- Digital Resources for Humanities Conference, University of Gloucestershire, Cheltenham, UK. 31 August 2003. *Computer applications and resources in music scholarship: The present and the future*, with S. Weiss.
- International Musicology Society, 17th International Congress Leuven, Belgium. 5 August 2002. *Digitization of the Lester S. Levy collection of sheet music*.
- 143rd Meeting of the Acoustic Society of America, Pittsburgh, PA. 6 June 2002. *Comparison of machine and human recognition of isolated instrument tones*. *Journal of Acoustical Society of America* 111(5): 2417.
- University of California, Irvine, CA. 5 March 2002. *Computer recognition of orchestral instruments*.
- University of California, Santa Barbara, CA. 4 March 2002. *Lazy learning and realtime timbre recognition*.
- Stanford University. Pal Alto, CA. 1 March 2002. *The Levy Project: Introducing Gamera*.
- Music Library Association. 71st Annual Meeting, Las Vegas, NV. 21 February 2002. *Toward distributed digital music library*.

OTHER CONFERENCES ATTENDED

3rd Meeting of Society of Digital Archive, 15–16 March 2019, Kyoto, Japan
Works, Work Titles, Work Authorities: Perspectives on Introducing a Work Level in RISM, 9–11 May 2019, Mainz, Germany.
27th Meeting of the Japan Society of Sonic Arts, 4 March 2017, Tokyo, Japan
Japanese Artificial Intelligence Conference, 6–8 June 2016, Kokura, Japan.
International World Wide Web Conference, 11–15 April 2016, Montreal, Canada
110th Information Processing Society of Music Information Science Society meeting, 29 February–1 March 2016, Osaka, Japan.
Information Processing Society for Accessibility Study Group meeting, 13 February, Tokyo, Japan.
The First Digital Humanities Symposium. 26 January 2016, Tokyo, Japan.
The Digital Scholarship Workshop in DC sponsored by Trans-Atlantic Platform for the Social Sciences and Humanities. 28–9 January 2015, Washington, DC.
Lorenz Center Workshop on Music Similarity: Concepts, Cognition and Computation. 19–23 January 2015, Leiden, the Netherlands.
American Musicological Society / Society for Music Theory Meeting. 6–9 November 2014, Milwaukee, WI.
International Society for Music Information Retrieval Conference, 27–31 October 2014, Taipei, Taiwan.
IAML (International Association of Music Libraries) Conference. 28 July – 3 August 2013, Vienna, Austria.
Society of Music Perception and Cognition, 8–11 August 2013, Toronto, ON.
Medieval and Renaissance Music Conference. 4–7 July 2013, Certaldo, Italy.
American Musicological Society Meeting. 10–13 November 2011, San Francisco, CA.
International Symposium on Performance Science. 23–28 August 2011, Toronto, ON.
IAML International Conference. 24–29 July 2011, Dublin, Ireland.
AES 42nd Conference on Semantic Audio. 22–24 July 2011, Ilmenau, Germany.
International Workshop on Advances in Music Information Research. 15 July 2011, Barcelona, Spain.
IEEE International Conference on Multimedia and Expo. 11–15 July 2011, Barcelona, Spain.
Medieval and Renaissance Music Conference. 5–8 July 2011, Barcelona, Spain.
LIBER 2011: Association of European Research Libraries Conference. 29 June–2 July 2011, Barcelona, Spain.
Digging Into Data Challenge Conference. 9–10 June 2011, Washington, DC.
Renaissance Society of America Annual Meeting. 24–26 March 2011, Montreal, QC.
Dagstuhl Seminar on Multimodal Music Processing. 23–28 January 2011, Dagstuhl, Germany.
American Musicological Society / Society of Music Theory Meeting. 23–27 November 2010, Indianapolis, IN.
3rd Annual Lawrence J. Schoenberg Symposium on Manuscript Studies in the Digital Age. 19–20 November 2010, Philadelphia, PA.
IAML, 5–11 July 2009, Amsterdam, Netherlands.
AIRS Start-up Conference, 27–30 June 2009, Charlottetown, PEI.
Joint Conference on Digital Libraries, 15–20 June 2009, Austin, TX.
71st National Convention of Information Processing Society of Japan, 10–12 March 2009, Kusatsu-shi, Japan
Asian-Pacific Conference on Library and Information Education Practice (A-LIEP 2009), 6–8 March 2009, Tsukuba, Japan
Workshop on Interactive Systems and Software, 26–8 November 2008, Kobe, Japan.
Musical Acoustics Society of Japan Workshop 15–16 November 2008, Kanazawa, Japan.
Entertainment Computing 2008, 29–31 October 2008, Kanazawa, Japan.
Musical Acoustics Society of Japan Workshop 18 October 2008, Tokyo, Japan.
Joint Conference on Digital Libraries, 16–20 June 2008, Pittsburgh, PA.
Canadian Association of Music Libraries Conference, 7–8 June 2008, Vancouver, BC.
Canadian Association for Information Science Conference, 5–7 June 2008, Vancouver, BC.
Association for Recorded Sound Collections Conference, 26–30 March 2008, Pal Alto, CA.
Mellon Foundation: Research in Information Technologies / Scholarly Communications Program Retreat, 28–9 February 2008, Princeton, NJ.
Music Library Association 77th Annual Meeting, 17–24 February 2008, Newport, RI.
Mellon Foundation All-Projects Meeting. 5–7 June 2007, New York, NY.
American Musicological Society / Society of Music Theory Meeting. 1–5 November 2006, Los Angeles, CA.
New Interfaces for Music Expression. 5–8 June 2006, Paris, France.
European Conference on Information Retrieval. 10–2 April 2006, London, England.
American Musicological Society Meeting. 26–9 October 2005, Washington, DC.
International Association of Music Libraries and IASA Congress. 8–13 August 2004, Oslo, Norway.
International Conference on Music Perception and Cognition. 3–7 August 2004, Evanston IL.
Sound Savings: Preserving Audio Collections Symposium. 24–6 July 2003, Austin, TX.

OTHER CONFERENCES ATTENDED

EU/NSF Digital Libraries All Projects meeting 25–6 March 2002, Rome, Italy.
Conference on the Biological Foundation of Music, May 2000, New York.

CONFERENCES and WORKSHOPS HOSTED

- 2009/10/26–30: International Society for Music Information Retrieval (Kobe, Japan)
- 2010/10/22: CIRMMT Workshop on Music Information Retrieval and Cultural Data
- 2011/11/12: SIMSSA Workshop I at AMS (San Francisco)
- 2012/07/28: SIMSSA Workshop II at IAML (Montreal)
- 2013/06/21: CIRMMT Workshop on Human History Project #1 (Montreal)
- 2013/09/07: SIMSSA Workshop III at CIRMMT (Montreal)
- 2014/09/29: SIMSSA Workshop IV at CIRMMT (Montreal)
- 2014/11/06: SIMSSA Workshop V at AMS/SMT (Milwaukee)
- 2015/06/27: SIMSSA Workshop VI at IAML/IMS (New York City)
- 2015/07/09: SIMSSA Workshop VII at MedRen Conference (Brussels)
- 2015/09/25: CIRMMT Workshop on Usability and User Experience for Music Information Systems
- 2015/12/12: Second International Workshop on the Human History Project (Montreal)
- 2016/05/17–20: Music Encoding Conference (Montreal)
- 2016/05/21: SIMSSA Workshop VIII at CIRMMT (Montreal)
- 2016/07/09: SIMSSA Workshop IX at IAML (Rome)
- 2016/09/24: SIMSSA Workshop X at CIRMMT (Montreal)
- 2016/11/03: SIMSSA Workshop XI at AMS/SMT (Vancouver)
- 2017/08/07: SIMSSA Workshop XII at CIRMMT (Montreal)
- 2017/09/22: SIMSSA Workshop XIII at Art Gallery of Nova Scotia (Halifax)
- 2018/05/28: SIMSSA Workshop XIV at CIRMMT (Montreal)
- 2018/07/27: SIMSSA Workshop XV at IAML (Leipzig)
- 2018/11/01: SIMSSA Workshop XVI at AMS/SMT (San Antonio)
- 2018/12/01: SIMSSA Workshop XVII at CIRMMT (Montreal)
- 2019/06/02: SIMSSA Workshop XVIII at MEC (Vienna)
- 2019/09/21: SIMSSA Workshop XIX at CIRMMT (Montreal)

Natural language fluency:

English: reading, speaking, writing
French: reading, speaking, writing*
Japanese: reading, speaking, writing*
German: reading*, speaking* (* means limited)

Computer language fluency:

Programming Languages: Algol, APL, Basic, C, C++, Fortran, Java, JavaScript, Objective-C, Pascal, PostScript, PL/1, Python, XPL, and Assembler (IBM360/370, M56000, TI320x0, and 8088/80x86)
Operating Systems: CP/M, MacOS, MTS, MVS/OS, MUSIC, MS-DOS, OSX, UNIX/Linux, Windows

Musical career:

1988–94, 2003– Member of *Arashi Daiko* (traditional Japanese drum group)
1985 Baroque timpanist, Dietrich Buxtehude:
Cantatas for Lent and Easter (McGill Records 84021).
1979–81 Percussionist, *Edmonton Symphony Orchestra*
1979–80 Composer/Percussionist, University of Alberta Drama Dept.
1979 Percussionist, *Ice Capades; Citadel Theatre*
1978–80 Percussionist/Accompanist, *Brian Webb Dance Company*
Teacher of percussion and drums, *The Drum Shop*
Drummer, *University of Alberta Stage Band*
1978 Founded *Kashim Percussion Quartet*, Edmonton's first professional percussion ensemble
1977–81 Timpanist/Percussionist, *St. Cecilia Orchestra*
1975–80 Percussionist/Timpanist, *University of Alberta Wind Ensemble*
1974 Percussionist, *University of Alberta Concert Band*
1973 Founded *Synthesis*, an electronic music ensemble
1972–81 Drummer, various dance bands

Courses taught:

McGill University: Music and Audio Computing II (2014)
Music and the Internet (2011–3)
Seminar: Music Information Acquisition, Preservation, and Retrieval (2004–7, 2009, 2011–5, 2017–8)
Seminar: Musical Data Mining (2003)
Music and Audio Computing I (2002)
Advanced Multimedia Development (2002–7)
Independent Music, Media & Technology Projects: Music Technology: (2006: Beinan Li); (2012: Gregory Burlet, Gabriel Vigiliensoni); (2014: Jason Leung) (2016: Austin Dunn) (2017: Yaolong Ju)

Johns Hopkins University: Digital Music Programming (1994–2002)
Synthesis Theory (1994–2002)
Research Practicum (1994–2002)
Introduction to Programming (1998–2000)
Seminar: Music Data Mining (2001)
Seminar: Linux and Music (2000)
Seminar: Designing Web-based Music Applications (1998)
Seminar: SuperCollider (1997)
Seminar: Publishing on the Internet (1996)

Student Advisees:

McGill University:

John Ashley Burgoyne (Ph.D. 2005–12) *Stochastic processes and database-driven musicology*.
Gregory Burllet (M.A. 2011–3) *Automatic guitar tablature transcription online*.
Spencer Campbell (M.A. 2009–11) *Automatic key detection of musical excerpts from audio*.
Alex Daigle (M.A. 2017–)
Timothy de Reuse (M.A. 2017–9) *A machine learning approach to pattern discovery in symbolic music*.
Timothy de Reuse (Ph.D. 2019–)
Johanna Devaney (Ph.D. 2007–12) *An empirical study of the influence of musical context on intonation practices in solo singers and SATB ensembles*.
Yulia Draginda (2018–; co-supervisor)
Greg Eustace (M.A. 2006–8) *Subjective evaluation of an autoregressive model-based method for the restoration of audio recordings contaminated with impulsive noise*.
Robert Ferguson (M.A. 2002–4) *Automatic segmentation in concert recordings*.
Rebecca Fiebrink (M.A. 2004–6) *An exploration of feature selection as a tool for optimizing musical genre classification*.
Robert Giglio (M.A. 2014–6; co-supervisor)
Ryan Groves (M.A. 2012–6) *Automatic melodic analysis*
Andrew Hankinson (Ph.D. 2007–14) *Optical music recognition infrastructure for large-scale music document analysis*.
Jason Hockman (Ph.D. 2007–13) *An ethnographic and technological study of breakbeats in Hardcore, Jungle, and Drum & Bass*.
Andrew Horwitz (M.A. 2013–)
Yaolong Ju (Ph.D. 2016–)
Andrew Kam (M.A. 2017–9) *Automatic classification of artist visual aesthetics: Linking fashion and genre*.
Stephanie Khoury (Ph.D. 2014–7; co-supervisor) *Improvise: Research-creation of a framework and software prototype for creative music learning with technology*
Trevor Knight (M. Eng. 2010–2; co-supervisor) *Analysis of trumpet tone quality using machine learning and audio feature selection*.
Suzuka Kokubu (M.A. 2019–)
Catherine Lai (Ph.D. 2003–7) *Metadata for phonograph records: Facilitating new forms of use and access*.
Beinan Li (Ph.D. 2004–11) *Optical audio reproduction for stereo phonograph records by using white-light interferometry and image processing*.
Daniel McEnnis (M.A. 2004–6) *On-demand Metadata Extraction Network*.
Cory McKay (M.A. 2002–4) *Automatic genre classification of MIDI recordings*.
Cory McKay (Ph.D. 2004–10) *Automatic music classification with jMIR*.
Néstor Nápoles (Ph.D. 2017–)
Alastair Porter (M.A. 2010–3) *Evaluating music fingerprinting systems*.
Hannah Robertson (M.A. 2011–3) *Testing a new tool for alignment of musical recordings*
Ying Qin (M.A. 2011–3) *A historical survey of music recommendation systems: Towards evaluation*.
Evan Savage (M.A. 2018–)
Jordan Smith (M.A. 2008–11) *A survey of approaches to the automatic formal analysis of musical audio*.
Martha Thomae (M.A. 2015–7) *Automatic scoring up of mensural music using perfect mensuration, 1300–1500*.
Martha Thomae (Ph.D. 2017–)
Adam Tindale (M.A. 2002–4) *Classification of snare drum sounds using neural networks*.
Gabriel Vigliensoni (Ph.D. 2011–7) *Evaluating the performance improvement of a music recommendation model by using user-centric features*
Ling-Xiao Yang (M.A. 2014–6) *Singing transcription using machine learning with feature selection*

Post-docs: Laurent Pugin (2006–8); Mathieu Bergeron (2010–2); Andrew Hankinson (2015–6); Reiner Krämer (2015–7); Clair Arthur (2016–8); Nathaniel Condit-Shultz (2017–8); Gabriel Vigliensoni (2017–); Jorge Calvo-Zaragoza (2017–8)

Johns Hopkins University: Jeff Beman (D.M.A. 1995), Matthew Burtner (M.M. 1997), Michael Droettboom (M.M. 2002), Mark Emon (M.M.), Takayuki Hoshishiba (JAIST: Ph.D. 2000, M.Sc. 1996, co-supervisor), Charles Kim (M.M. 1998), Sumi Kim (M.M.), Ken Kinnard (M.M. 1995), Marian Lee (D.M.A.

2002), Wan Ching Lee (M.M. 1999), Wendy Linkin (M.M. 1997), Karl MacMillan (M.M. 2002), Chris Mandra (D.M.A.), Meg Schedel (M.M. 2001), Seong Ah Shin (M.M.), Scott Smallwood (M.M.), Asha Srinivasan (M. M.), David Sullivan (M.M. 2001), Rie Suzuki (D.M.A. 1999), Forrest Tobey (D.M.A. 1997), Michael Urich (M.M. 1996), Gastone Vinci (M.M.), David Wetzel (M.M. 1998), Tony Willert (M.M.), John Young (M.M. 2003), Takako Yoshida (JAIST: Ph.D., M.Sc. 1997, co-supervisor), Lilit Yoo (M.M. 2000)

Thesis committees (McGill): Sean Olive (Ph.D. Sound Recording 2004), Jung-Kyong Kim (M.Sc. Psychology 2003), Sebastian Streich and Bee Suan Ong (Ph.D. Universitat Pompeu Fabra, Spain 2007), Finn Upham (M.A., Music Technology 2011), Chelsea Douglas (M.A. Music Technology 2015), Chris Wood (M.A. Music Technology 2015), Jason Leung ((M.A. Music Technology 2015), Elliot Creager (M.A. Music Technology 2015), Nicholas Esterer (M.A. Music Technology 2016), Wen Xiao (M.A. Music Technology 2017), Na Eun Kim (M.A. Music Technology 2017)

Doctoral Comprehensive Examination committees (McGill): Song Hui Chon (Music Technology 2010), Vanessa Yaremchuk (Music Technology 2010), Corey Kereliuk (Music Technology 2010), Brett Leonard (Sound Recording 2011), Dave Benson (Sound Recording 2011), Sven-Amin Lembke (Music Technology 2011), Kai Siedenburg (Music Technology 2014), Eddy Kazazis (Music Technology 2016), Tanor Bonin (Music Technology 2018), Julian Neri (Music Technology 2019), Yulia Draginda (D.M.A. Music Performance, Organ, 2019), Yuval Adler (Music Technology 2020), Behrad Madahi (Music Technology 2020), Douglas Beaton (Music Tecchnology 2020)

PhD Defense committees (McGill): Brad Vines (Psychology 2005), Charles Antoine Juilen (Information Studies 2010), Farah Kawtharani (Islamic Studies 2012 as Pro-Dean), Ladan Mahabadi (Computer Science 2013), Ahmad Sadek (Mechanical Engineering 2014 as Pro-Dean), Mark Bazett (Human Genetics 2015 as Pro-Dean), David Weigl (Information Studies 2016), Jorge Calvo-Zaragoza (Computer Science, University of Alicante, Spain 2016), Francesco Tordini (Electrical Engineering 2017), Sergio Omras (Music Technology, Universitat Pompeu Fabra, Spain 2017), Jan Halič, Jr. (Mathematics and Physics, Charles University, Czech Republic 2019), Alexandre Pacha (Information Systems Engineering, TU Wien, Austria 2019)