

ANDREW HANKINSON

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VITALS

Nationality Canadian Citizen

Languages *English*: reading, speaking, and writing; *French*: reading

CURRENT POSITION

PhD Candidate

Current Status: Completed comprehensive examinations, November 2010

Supervised by Prof. Ichiro Fujinaga in the Distributed Digital Archives and Libraries Lab (DDMAL)

Music Technology Area, Department of Music Research, Schulich School of Music, McGill University

Affiliated with the Centre for Interdisciplinary Research in Music Media and Technology (CIRMMT)

EDUCATION

2007–Present PhD, Music Technology (Music Information Retrieval)—McGill University, Montréal, QC

2005–2007 Master of Library and Information Studies—McGill University, Montréal, QC

1999–2004 Bachelor of Music (Theory and History)—Acadia University, Wolfville, NS

1998–1999 Diploma in Biblical Studies—Maritime Christian College, Charlottetown, PE

RESEARCH INTERESTS

Distributed digital music libraries, optical music recognition, web services, metadata standards, organization of information, digitization & preservation, human-computer interaction, information-seeking behaviour, history of music printing

SCHOLARSHIPS, AWARDS AND BURSARIES

2011 McGill Graduate Visiting Researcher Support Award (\$3800) to support a visiting scholar position at the University of Virginia.

McGill Faculty of Music GREAT (Travel) Award for the International Society for Music Information Retrieval Conference, Utrecht, NL (\$500).

2010 Student Travel Award, International Society for Music Information Retrieval (ISMIR) conference, Utrecht, NL (€250).

CIRMMT Student Travel Award for the Digital Humanities Summer Institute, Victoria, BC (\$500).

CIRMMT Interdisciplinary Student Award, with Daniel Donnelly (\$5000, ea.).

Tuition Scholarship for the Digital Humanities Summer Institute, Victoria, BC (\$900).

McGill *Alma Mater* Travel Award for the International Society for Music Information Retrieval Conference, Kobe, JP (\$750).

2009 Advancing Interdisciplinary Research in Singing project provided funding for travel to the Access 2009 Conference, Charlottetown, PE (\$1000).

Répertoire International des Sources Musicales (RISM), Switzerland provided funding for travel to the International Association of Music Libraries (IAML) conference, Amsterdam, NL (\$1200).

2008	<p>Student Travel Award, International Society for Music Information Retrieval (ISMIR) conference, Philadelphia, PA (USD \$500).</p> <p><i>Répertoire International des Sources Musicales</i> Switzerland provided funding for travel to the International Association of Music Libraries (IAML) Conference, Naples, IT (\$1000).</p> <p>Canadian Association of Music Libraries (CAML) Conference Bursary (\$200).</p>
'99-'07	<p>Student Tuition Scholarship for attendance at the Digital Humanities Summer Institute, Victoria, BC-2007 (\$900).</p> <p>Student Developer Scholarship, Worldwide Developer Conference, Apple Computer-2004 (USD \$1300).</p> <p>A. Gordon Archibald Scholarship, Maritime Telegraph & Telephone-1999 (\$2000).</p>

WORK EXPERIENCE

2007–Present: Website and digital collections administrator, Improvisation, Community & Social Practice

Research assistantship position. Developed, deployed and currently maintain a research communication website for project participants located across the globe. <http://www.improvcommunity.ca>

- *Systems Administration:* Oversee online and backup web, database and file storage systems. Primary software systems include Drupal (PHP, MySQL) and DSpace (Tomcat, JSP, PostgreSQL).
- *Communication & Collaboration:* Provide technical support to project offices in Guelph, ON, and with researchers around the world.
- *Consulting:* Advise executive and management teams on directions in online collaboration techniques, long-term media archiving, cataloguing and organizing digital assets and web-based content management solutions.

2008–9: Web application developer, Swiss RISM

Worked with the Swiss RISM (*Répertoire International des Sources Musicales*) working group to migrate their metadata from PiKaDo to MARC21, as well as assist the development and deployment of two web applications for cataloguing and presenting their materials online.

- *Software Development:* Primary developer of a document viewer using Ruby on Rails, ExtJS Javascript Framework, with asynchronous communication via AJAX. Advisor and secondary developer on the Swiss/UK RISM cataloguing web application.
- *Research & Collaboration:* Our work was the result of international collaboration between Switzerland, the UK and Canadian partners, and is in the process of being presented at international conferences as well as deployed by other RISM groups.

2006–9: Website developer/administrator, Convention of Atlantic Baptist Churches

Provided consulting, maintenance and development work for their web-based resources, including their Contact Relationship Management (CRM) software and Drupal-based website. During my tenure with the CABAC their monthly website traffic tripled.

- *Software Development:* PHP and Python-based development, centring primarily around their CRM systems database running on MySQL. Migrated their website templates to XHTML 1.0 (Strict) compliant status.
- *Teamwork & Communication:* I was based in Montréal, with the Convention offices in Saint John, NB. Worked with them on a daily basis to update & maintain the website content as well as provide technical support for staff and website visitors.
- *Project Management:* Implemented a number of new initiatives including job boards, content syndication and event publicity. Conducted two website interface re-designs.

Summer 2006: Project assistant, House of Commons, Parliament of Canada

Responsible for researching, writing reports and presenting emerging technologies to guide official IT policy for Parliamentary websites.

- *Communication:* Wrote and presented reports on browser compatibility, content syndication (RSS & Atom), accessibility standards and media (audio/video) delivery formats.
- *Usability & Accessibility:* Conducted cross-browser testing of parliamentary websites, including testing with assistive devices such as screen readers.

RESEARCH PROJECTS

2011–4: Single Interface for Music Score Searching and Analysis (SIMSSA)

PI: Ichiro Fujinaga. Social Sciences and Humanities Research Council (SSHRC) Partnership Development Grant (\$197 903). Co-wrote grant application; Hired and supervised student assistants; Oversaw software design and development. (<http://simssa.music.mcgill.ca>)

2011–3: Recovering Lost Voices

PI: Richard Freedman. National Endowment for the Humanities (NEH) Grant (\$150,000). Consulting for website and music encoding format support. (<http://ricercar.cesr.univ-tours.fr/3-programmes/EMN/Duchemin>)

2010–3: Optical Music Recognition for Plainchant

PI: Ichiro Fujinaga. SSHRC Standard Research Grant (\$141 393). Hired and supervised student assistants; Oversaw software design and development. (http://ddmal.music.mcgill.ca/research/omr/omr_for_plainchant)

TEACHING EXPERIENCE

Jan.–Apr. 2010 Co-instructor for MUMT 402 (Advanced Multimedia Development), McGill University.

PUBLICATIONS

† = Peer reviewed

- †Hankinson, A., P. Roland, I. Fujinaga. 2011. The Music Encoding Initiative as a document encoding framework. In *Proceedings of the Conference of the International Society for Music Information Retrieval*. Miami, FL. Forthcoming.
- †Vigliensoni, G., J. A. Burgoyne, A. Hankinson, and I. Fujinaga. 2011. Automatic pitch detection in printed square notation. *Proceedings of the Conference of the International Society for Music Information Retrieval*. Miami, FL. Forthcoming.
- †Pugin, L., A. Hankinson, and I. Fujinaga. 2011. Digital preservation and access strategies for musical heritage: The Swiss RISM experience. *OCLC Systems & Services*. Forthcoming.
- Hankinson, A., W. Liu, L. Pugin, I. Fujinaga. 2011. Diva.js: A continuous document viewing interface. *Code4Lib Journal* 14. Available at <http://journal.code4lib.org/articles/5418> (Accessed August 2011).
- †Hankinson, A., L. Pugin, and I. Fujinaga. 2010. An interchange format for optical music recognition applications. In *Proceedings of the Conference of the International Society for Music Information Retrieval*. Utrecht, NL.
- †Hankinson, A., L. Pugin, and I. Fujinaga. 2009. Interfaces for Document Representation in Digital Music Libraries. In *Proceedings of the Conference of the International Society for Music Information Retrieval*. Kobe, JP.

PRESENTATIONS AND POSTERS

- February 2012 *New tools for optical chant recognition*. Poster accepted at the Music Libraries Association Conference, Dallas, TX (forthcoming).
- October 2011 Thompson, J., A. Hankinson, I. Fujinaga. 2011. Searching the *Liber Usualis*: Using CouchDB and ElasticSearch to query graphical music documents. Late-breaking/demo session at the International Society for Music Information Retrieval (ISMIR) conference, Miami FL.
- July 2011 *New tools for optical chant recognition*. Poster presented at the International Association of Music Libraries conference, Dublin, IRL.
- April 2011 *Applications of the Music Encoding Initiative in Optical Music Recognition*, Talk given at the University of Virginia Scholars' Lab, Charlottesville, VA.
- March 2011 *An annotated dataset for optical music recognition systems development*. Talk given at the Renaissance Society of America conference, Montréal, QC (with Daniel Donnelly).

- June 2010 *Distributed Optical Music Recognition*. Talk given at the Digital Humanities Summer Institute, Graduate Student Colloquium, Victoria, BC.
- January 2010 *Distributed Optical Music Recognition*. McGill Music Technology Student Colloquium, Montréal, QC.
- June 2009 *Drupal*. Invited talk at The AIRS Project Launch and Conference, Charlottetown, PE.
- March 2009 *Digital music libraries* (presentation). Guest lecture for the graduate seminar on Music Information Acquisition, Preservation and Retrieval (MUMT 621).
- March 2009 *How we search: Foraging, stumbling and sense-making in online environments* (presentation). McGill Music Technology Student Colloquium, Montréal, QC.
- October 2008 *A Web-based Document Viewer for Digital Music Libraries*. Poster presented at the International
- June 2008 *The McGill/IRAB Arabic Music Database*. Talk given at the Canadian Association of Music Libraries Conference, Vancouver BC.
- November 2007 *Cataloguing Music*. Guest lecture for the “Library of Congress Classification” course, Algonquin College, Ottawa, ON.

SOFTWARE DEVELOPMENT

- PyBagIt**: Python library for working with files that conform to the BagIt specification. <http://github.com/ahankinson/pybagit> (lead developer).
- PyMEI 1.0**: Prototype library for reading and writing Music Encoding Initiative files. <http://github.com/ahankinson/pyme> (lead developer).
- Diva.js**: Continuous document viewing interface library for jQuery. <http://github.com/ddmal/diva.js> (project lead; principal architect).
- libmei**: C++ library for reading and writing Music Encoding Initiative files. <http://github.com/ddmal/libmei> (project lead; principal architect).

MEMBERSHIPS & AFFILIATIONS

- 2010–Present Member, International Computer Music Association (ICMA).
- 2011–Present Member, Audio Engineering Society (AES).
- 2009–Present Member, International Society for Music Information Retrieval (ISMIR)
- 2007–Present Member, Center for Interdisciplinary Research in Music Media and Technology (CIRMMT).
- 2006–Present Member, Canadian Association of Music Libraries.
- 2006–Present Member, International Association of Music Libraries.

ACADEMIC & PROFESSIONAL SERVICE

- 2011–Present Music Encoding Initiative Technical Group.
- 2011 Session organizer on Digital Representation of Musical Sources, Annual meeting of the Renaissance Society of America.
- 2009–11 Research Axis 3 (Music Information Archiving and Retrieval) Student Executive Representative, Centre for Interdisciplinary Research in Music Media and Technology (CIRMMT).
- 2009–Present Website administrator, 2012 International Association of Music Libraries Conference (<http://montreal2012.info>).
- 2009–11 Co-ordinator, CIRMMT Student Research Colloquium.
- 2009 Website administrator, International Computer Music Conference (ICMC) 2009, McGill University.

- 2008–9 Alumni Representative, McGill School of Information Studies, ALA Reaccreditation Committee.
 2008 Consultant, “Hearing Visions Sonores” art exhibit, Montreal, QC.

CONFERENCES ATTENDED

- October 2011 IMPACT Project Final Conference, London, UK
- July 2011 International Association of Music Libraries Conference, Dublin, IRL.
 AES Conference on Semantic Audio, Ilmenau, DE.
- March 2011 Renaissance Society of America, Montréal, QC.
- November 2010 Schoenberg Symposium on Manuscript Studies in the Digital Age, Philadelphia, PA.
- August 2010 International Society for Music Information Retrieval Conference, Utrecht, NL.
- June 2010 Digital Humanities Summer Institute, Victoria, BC.
- March 2010 CIRMMT Workshop on Structural Analysis of Music.
- December 2009 CIRMMT Workshop on Timbre, Montréal, QC.
- October 2009 International Society for Music Information Retrieval Conference, Kobe, JP.
- August 2010 International Computer Music Conference, Montréal, QC.
- July 2009 International Association of Music Libraries Conference, Amsterdam, NL.
- May 2009 Workshop on Expressive Performance, Université de Montréal, QC.
- November 2008 Montreal Music and Machine Learning Workshop, Université de Montréal, QC.
- October 2008 International Society for Music Information Retrieval Conference, Philadelphia, PA.
- July 2008 International Association of Music Libraries Conference, Naples, IT.
- June 2008 Canadian Association of Music Libraries Conference, Vancouver, BC.
- February 2008 Web2you Conference, McGill School of Library & Information Studies, Montréal, QC.
- January 2008 Northeast Music Information Special Interest Group Workshop, New York, NY.
- June 2007 Digital Humanities Summer Institute, Victoria, BC.
- May 2007 Canadian Association of Music Libraries Conference, Montréal, QC.
- June 2004 Apple Worldwide Developer’s Conference, San Francisco, CA.

TECHNICAL SKILLS

I possess technical competencies in the following areas:

Programming, Website and web application development

Languages & Frameworks Python, PHP, Ruby, JavaScript, SQL, HTML, CSS, XML, C++ MaxMSP, Matlab, Ruby on Rails, Django, Drupal

Concepts & Standards Web services, AJAX, JSON, W3C validation, Section 501 (Accessibility) and Canadian Government web accessibility standards, cross-browser deployment, usability testing

Systems Administration

Specific Hardware Apple XServe & XServe RAID, HP Tape Autoloaders, Dell PE1950.

Operating Systems Mac OS X Client & Server, Windows, FreeBSD (UNIX), Linux

Software Apache (1.x & 2.x), NginX, MySQL, PostgreSQL, OpenDirectory, ipfw, Apache Tomcat

Media Production

Software

Final Cut Suite (Final Cut Pro, Motion, Soundtrack, Compressor, Livetype),
Pro Tools, QuickTime Pro, Adobe Design Studio (Photoshop, InDesign, Illustrator)

Production

Editing techniques, compositing, camera operation, lighting, sound, storyboarding.

Digital Libraries

Software

DSpace, Greenstone, Fedora, CDS Invenio

Standards

OAIS, FRBR, Dublin Core, OAI-PMH, MARC21, MODS/METS

PERSONAL INTERESTS

Musical Training

Grade 4 Piano, Royal Conservatory of Music.

Principle instrument for undergraduate degree requirements: Guitar

Choral Experience

Christ Church Cathedral Singers, directed by Patrick Wedd, Montréal, QC, 2006–Present.

Manning Memorial Chapel Choir, directed by John M. Scott, Wolfville, NS, 2004–2006.

Acadia University Chorus, 2002–2004.

Film & Video

Documentary film-maker:

Witnessing, Teaching, Serving: 100 Years of Atlantic Baptists

Credits: Writing, directing, filming, editing.

Saints With Us Historical Vignettes

Credits: Writing, directing, filming, editing

Digital Animation:

Find it at your Library

Credits: Animation. concepts

Audio Production

Audio engineer for ECMA-nominated band Jamie MacKay and the Great Beyond and their live album, *Live and Kickin'*, 2001.