

# CantusDB & the DACT Project

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McGill University, Montréal, Canada

# The Cantus Environment



- “tables of contents” of medieval chant books
- 35+ years
- 500,000 records from over 200 sources (more in progress)
- significant research impact
- used by academics, performers, librarians & archivists, and others
- also accessed by the general public
- began on a mainframe with COBOL applications, moved to WordPerfect 5.1 (DOS), then Access, then Drupal...

- a catalogue of chant texts and melodies
- a hub site connecting 18 chant databases and research/analysis websites
- since 2012
- 57,000 records
  - representing 108 genres (types of chant)
- user interface allows searching across all networked sites
- API allows export of the data

<https://cantusdatabase.org>

**Cantus: A Database for Latin Ecclesiastical Chant - Inventories of Chant Sources**

Cantus is a database of the Latin chants found in manuscripts and early printed books, primarily from medieval Europe. This searchable digital archive holds inventories of **antiphoners** and **breviaries** -- the main sources for the music sung in the Latin liturgical Office -- as well as **graduals** and other sources for music of the Mass.

New phases of the project include adding chant melodies to existing records, and indexing other types of chant manuscripts, including processionals, pontificals, and sources that contain sequences.

**Cantus Database is a part of the Cantus Index network of manuscript databases.** For our full catalogue of chants as well as access to the integrated network of partner chant databases, see [Cantus Index \(Catalogue of Chant Texts and Melodies\)](#).

**Use the Cantus Database if you are:**

- looking for the complete contents of an indexed source;
- investigating a particular manuscript or liturgical centre (monastery or cathedral);
- seeking quick access to the online archives that hold digital images for many of the sources indexed by Cantus;
- searching for a chant by text;
- searching for a chant by melody - use [Melody Search Tool](#);
- wondering which chants were sung on a particular Saint's day or any other feast throughout the year;
- searching for concordances of a chant;

<https://cantusindex.org>

**Cantus Index: Catalogue of Chant Texts and Melodies**

Countries where chant-research projects are located:

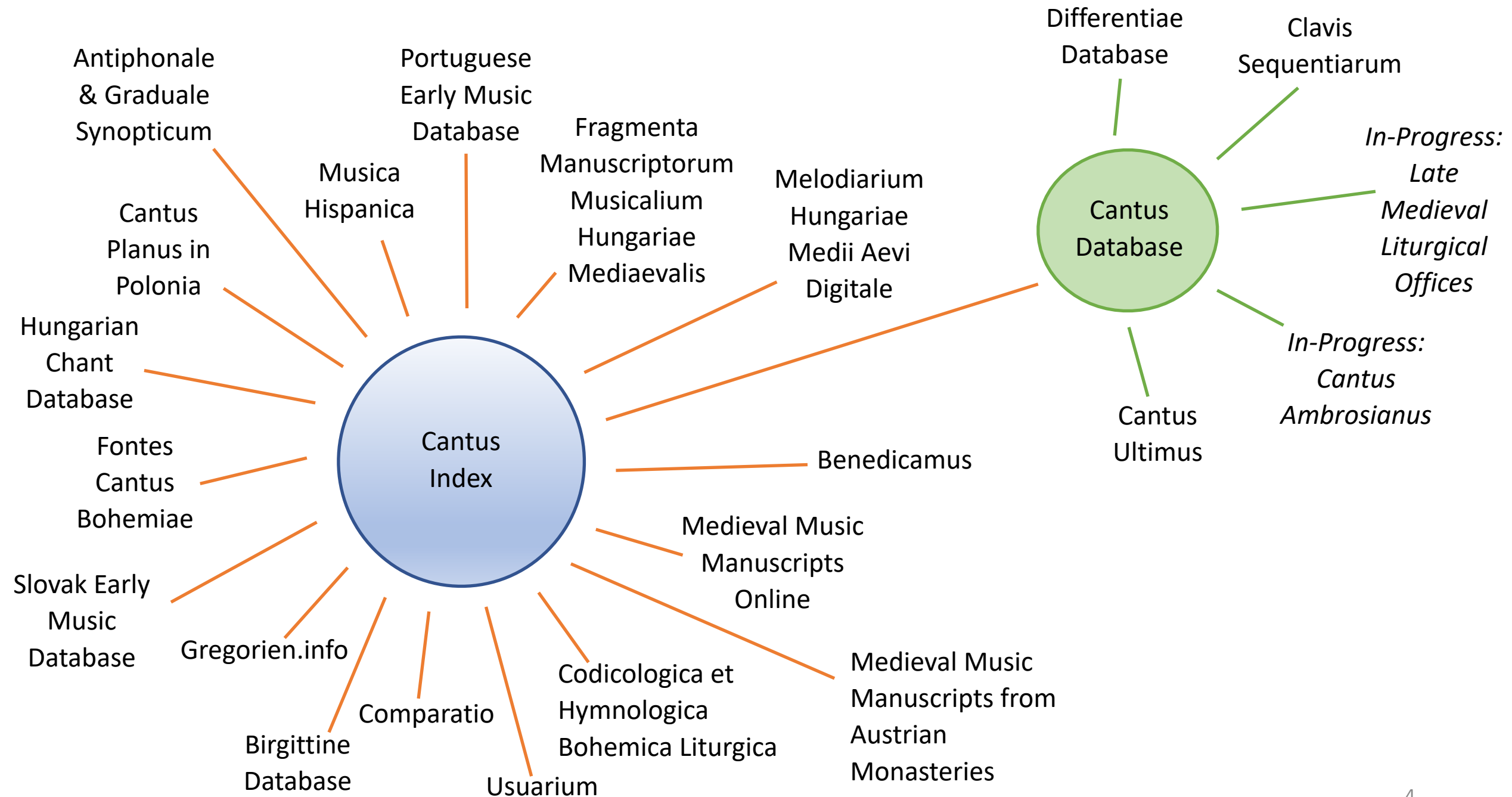
- Cantus Database**: A Database for Latin Ecclesiastical Chant. Debra Lacoste. [cantusdatabase.org](#)
- Benedicamus**: Benedicamus Melodies. Catherine A. Bradley. [bf.uio.no](#)
- Antiphonale & Graduale Synopticum**: Die Offiziantiphonen und das Messproprrium des Gregorianischen Choralis. Harald Buchinger. [gregorianik.uni-regensburg.de](#)
- Cantus Ultimus**: Exploring OMR Technologies. Edith Fijnmaa. [cantus.sintssa.ca](#)
- Gregorien.info**: Académie de chant gregorien. Inga Behrendt, Gerald Messiaen. [gregorien.info](#)
- Comparatio**: Comparaison de différentes versions d'antennes et de répons. Claire Maître. [comparatio.irht.cnrs.fr](#)
- PEM Database**: Portuguese Early Music Database. Manuel Pedro Ferreira. [pemdatabase.eu](#)
- Musica Hispanica**: Spanish Early Music Manuscripts. Carmen Julia Gutiérrez. [musicahispanica.eu](#)
- MMMO**: Medieval Music Manuscripts Online. Dominique Gatté. [musmed.eu](#)
- Austriamanus**: Austrian Medieval Monastic Music Manuscripts Database. Martin Haltrich, Eva Veselovská. [austriamanus.org](#)
- Hungarian Chant Database**: CAD-ECC + Gradualia. Zsuzsa Czagyány, Gábor Kiss. [hunchant.eu](#)
- Slovak Early Music Database**: Cantus Planus in Slovakia. Eva Veselovská. [cantus.sk](#)
- Fragmenta**: Fragmenta Manuscriptorum Musicae Hungariae Mediaevalis. Zsuzsa Czagyány. [fragmenta.zsl.hu](#)
- CHOBOL**: Codicologica et Hymnologica Bohemica Liturgica. Maria Vihová-Würner. [hymnologica.cz](#)
- Cantus Planus In Polonia**: Plainchant Sources in the Czech Lands. Irena Chachaluka. [cantus.ipan.pl](#)
- Fontes Cantus Bohemiae**: Plainchant Sources in the Czech Lands. David Eben, Jan Kolářek. [cantusbohemiae.cz](#)
- Birgittine Database**: Cantus Sororum. Karin Lagergren. [birgittine.org](#)

**Recently added chants**

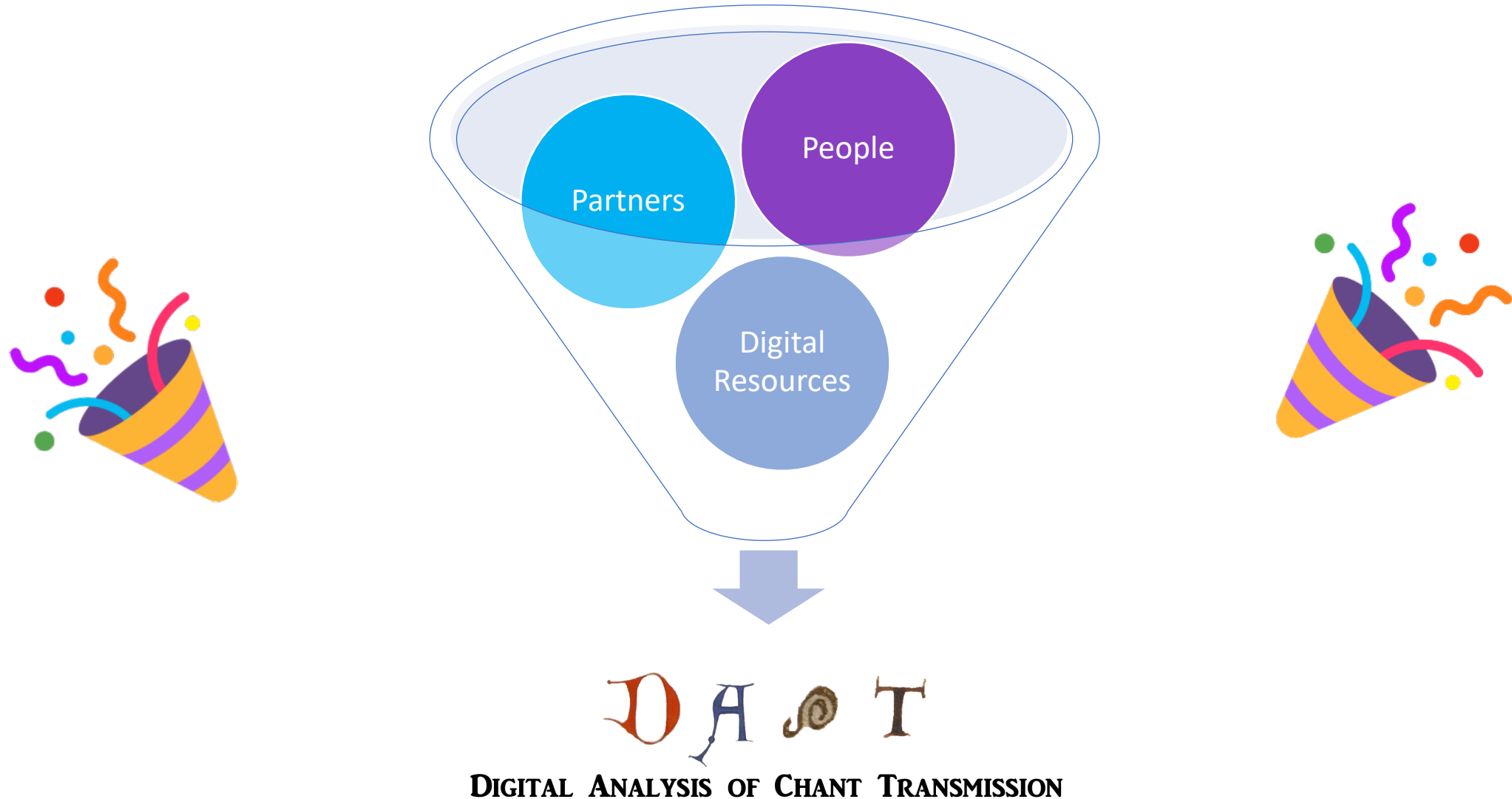
- Intercessione sancti Georii ad nostrae  
A - a07714 | Added by **Barbora Kabátková**  
4 hours 42 min ago
- Illam quae in eo flagravit ferem  
V - a07713a | Added by **Barbora Kabátková**  
5 hours 45 min ago
- Interventu domine dilecti tui Georii da  
R - a07713 | Added by **Barbora Kabátková**  
5 hours 58 min ago

**Recently added melodies**

- BD - mBAR104 | Added by **Nicholas David Yardley Ball**  
5 months 3 weeks ago
- BD - mBAR105 | Added by **Nicholas David Yardley Ball**  
5 months 3 weeks ago



# SSHRC Partnership Grant 2023-30





**DIGITAL ANALYSIS OF CHANT TRANSMISSION**

SSHRC Partnership Grant 895-2023-1002

Partner Organizations

Directors

Co-Investigators

Collaborators

Scientific Advisory Board



**Principal Investigator:** Jennifer Bain (Dalhousie U)

**Project Manager:** Debra Lacoste (Dalhousie U)

# DACT Host & 20 Partner Organizations

- Dalhousie University, Halifax, Nova Scotia, Canada [Host Institution]
- ACENET, Supercomputing in Atlantic Canada (regional partner for The Digital Research Alliance of Canada)
- Bodleian Libraries, University of Oxford, UK
- Cape Breton University, Sydney, Nova Scotia, Canada
- Hill Museum and Manuscript Library, Collegeville, Minnesota, USA
- Hungarian Academy of Sciences, Budapest, Hungary, Research Centre for the Humanities, Institute for Musicology
- McGill University, Montréal, Québec, Canada, Schulich School of Music
- Mount Allison University, Sackville, New Brunswick, Canada
- Polish Academy of Sciences, Warszawa, Poland, Institute of Art
- RISM Digital Center, Bern, Switzerland
- Slovak Academy of Sciences, Institute of

# DACT Host & Partner Organizations, cont.

- 
- Universidad Complutense de Madrid, Spain, Musica Hispanica / Spanish Early Music Manuscripts
  - Universidade NOVA de Lisboa, Faculdade de Ciências Sociais e Humanas, Lisbon, Portugal, Centro de Estudos de Sociologia e Estética Musical (Centre for the Study of the Sociology and Aesthetics of Music CESEM)
  - Université de Fribourg, Switzerland, e-codices, Fragmentarium
  - University of Manitoba, Winnipeg, Manitoba, Canada
  - University of Missouri-Kansas City, USA, CODICES: Digital Humanities Lab
  - University of Oslo, Norway, BENEDICAMUS project
  - University of Oxford, UK, DIAMM (the Digital Image Archive of Medieval Music)
  - University of Waterloo, Ontario, Canada, Cantus: A Database for Latin Ecclesiastical Chant
  - Wilfrid Laurier University, Waterloo,



# DACT 23 Co-Investigators

- 
- Alison Altstatt (U of Northern Iowa)
  - Houman Behzadi (McGill U - Music Library)
  - Virginia Blanton (U of Missouri - Kansas City)
  - Catherine Bradley (U of Oslo)
  - Julia Craig-McFeely (Oxford U)
  - Julie Cumming (McGill U)
  - Elsa De Luca (Universidade NOVA de Lisboa)
  - Ichiro Fujinaga (McGill U)
  - Marianne Gillion (Uppsala Universiteit)
  - Jan Hajič (Charles U)
  - Kate Helsen (Western U)
  - Lionel Li-Xing Hong (Fu Jen Catholic U)
  - Christine McWebb (U of Waterloo)
  - Janine Metallic (McGill U)
  - Michael Norton (James Madison U)
  - Marcia Ostashevski (Cape Breton U)
  - Linda Pearse (Mount Allison U)
  - Laurent Pugin (RISM Digital)
  - Rebecca Shaw (U of Toronto Libraries)
  - Kate Kennedy Steiner (Conrad Grebel UC at U of Waterloo)
  - Laurianne Sylvester (Unama'ki College at Cape Breton U)
  - Giovanni Varelli (U of Pavia)

# DACT 23 Collaborators

- David Andrés Fernández (Universidad Complutense de Madrid)
- Terence Bailey (Western U)
- Inga Behrendt (Eberhard Karls Universität Tübingen)
- Lisa Binkley (Dalhousie U)
- Susan Boynton (Columbia U)
- Mark Daley (Western U)
- William Duba (U of Fribourg)
- Fr. Roman Dusanowskyj (Holy Ghost Ukrainian Catholic Church)
- Deantha Edmunds-Ramsay (Inuk classical soloist, Nova Scotia)

- Manuel Pedro Ferreira (Universidade NOVA de Lisboa)
- Richard Haefer (Arizona State U)
- Barbara Haggh-Huglo (U of Maryland)
- Andrew Hankinson (RISM Digital)
- Jane Hardie (U of Sydney)
- Thomas Forrest Kelly (Harvard U)
- Sarah Ann Long (Michigan State U)
- Rachel McNellis (Independent Scholar)
- Kathleen Nelson (U of Sydney)
- Margaret Robinson (Dalhousie U)
- Gordon E. Smith (Queen's University)
- Janice Tulk (Cape Breton U)
- Melanie Turgeon (The King's University)

# DACT 3 Scientific Advisory Council Members

- David Burn (KU Leuven)
- Lisa Fagin Davis (Medieval Academy of America)
- Dylan Robinson (U of British Columbia)

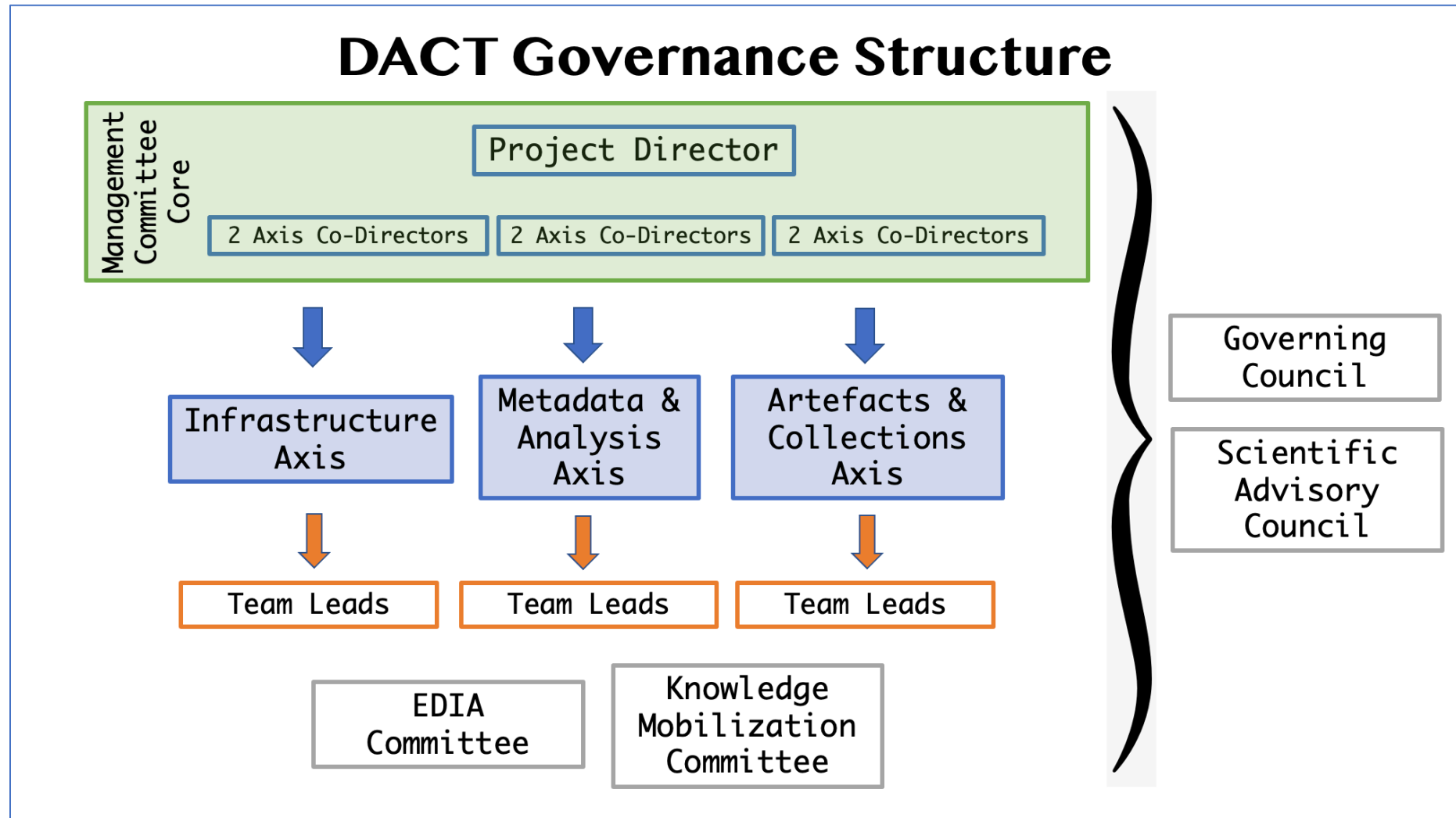


# What is DACT?

DACT is a collaborative, team-based partnership project that aims to trace and understand the transmission of medieval chant through Time and Place.

Understanding how chant traveled and adapted over time and place through oral and written traditions is important for what it can tell us about the communication of culture through the encounters of people and ideas.

# Governance for DACT



# Governance for CD and CI

## CANTUS DATABASE AND CANTUS INDEX GOVERNANCE STRUCTURE



**CANTUS INDEX**  
ONLINE CATALOGUE FOR MASS AND OFFICE CHANTS

## Cantus Database and Cantus Index Governance Structure

### *Cantus Governing Council*

#### *Membership:*

- Directors of research projects providing funding for the *Cantus Database* and *Cantus Index* (currently *Digital Analysis of Chant Transmission* Director and *LinkedMusic* Director)
- DIAMM Director or representative
- RISM Digital Center Director or representative
- *Cantus Database* Project Manager / Director (ex officio)
- *Cantus Index* Project Manager / Director (ex officio)

#### *Responsibilities:*

1. establish and maintain the *Cantus Scientific Advisory Board*, considering senior/junior researchers, research field, and global geographical distribution
2. approve annual budget
3. consider annual technological developments and direction

...



<https://dact-chant.ca/workshops.html>

**Workshop 13: Indexing Litanies**  
Friday, March 31, 2023  
10:00-11:30 am Atlantic Daylight Time (Halifax, NS, Canada)  
Hosted by Alessandra Ignesti and Laura Albiero  
Online on Zoom: <https://us02web.zoom.us/j/2531747306>

**Agenda**  
10:00 Debra Lacoste (Dalhousie U), **Welcome & Land Acknowledgement**  
10:05 Alessandra Ignesti (U of Oslo) and Laura Albiero (IRHT, Paris-Aubervilliers), **Indexing Litanies in Cantus**  
10:45 BREAKOUT ROOMS  
11:00 Discussion  
11:25 Wrap-Up

Link to Handout for Today's Workshop:  
[https://www.dropbox.com/s/qj4n1x493a46cb/DACT\\_Handout-Workshop%2013%20Indexing%20Litanies.pdf?dl=0](https://www.dropbox.com/s/qj4n1x493a46cb/DACT_Handout-Workshop%2013%20Indexing%20Litanies.pdf?dl=0)

Next DACT Workshop:  
Workshop 14: Protocol Development — Indexing the Alleluia  
Friday, April 28, 2023 at 11:00 am-12:30 pm Atlantic Daylight Time  
Hosted by Debra Lacoste, Project Manager for the Cantus Database, Dalhousie University  
Online on Zoom: <https://us02web.zoom.us/j/2531747306>

<https://dact-chant.ca>

# Communication

# New & Potential Developments

- **Cantus Ultimus** user interface
  - images and chant data together on the same screen
- Reorganization / rethinking of “**feast**” table
  - Currently over 1700 individual liturgical occasions that happen throughout a year
    - Eg. Saints’ days, ordinary days of the week, Sundays in a season such as Advent, Christmas, Easter, ordinations of bishops, rites for the visiting of the sick, for those possessed by evil spirits, or for the anointing of beards, etc.
  - Wikidata? (We want widespread adoption but we want to control editing.)
  - Establish our ontology
    - It is already in use throughout the Cantus Index network (18 projects / sites).
- **Data provenance** – how to capture this?
- **Lists of sources, both uninventoried and inventoried** (a DACT outcome), with clear interfaces for users (lists of Spanish Cantorales, lists of sources in archives in western Canada, etc.)
- “**Canadian Chant Database**”

# Canadian Chant Database

Canadian Chant Database



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A screenshot of the Cantus website homepage. The page features a navigation menu at the top with links for HOME, ABOUT, SOURCES, CHANTS, FEASTS, TERMS, and RESOURCES. The main content area is titled "Cantus: A Database for Latin Ecclesiastical Chant - Inventories of Chant Sources". It includes a search bar, a "Jump to Source" section with a "-Browse sources-" dropdown, and a "What's New" section with a list of recent updates. The background of the page shows a faint image of a manuscript page with musical notation.

HOME ABOUT SOURCES CHANTS FEASTS TERMS RESOURCES  
Home Page Information List of inventories Search List of feasts Genres & fields Docs, Instructions, Tools

Incipit/CantusID

Jump to Source

-Browse sources-

What's New

- **New Cantus Database**  
Tuesday August 1, 2023
- **Cantus at Laurier's Medieval Day**  
Wednesday March 15, 2023
- **The story of the Riesencodex heist, live on UK TV (GB News)!**  
Monday March 13, 2023
- **Web Exhibit: Vertical Lines in Barnard MS 1**  
Wednesday March 1, 2023
- **Music in Manuscript Cultures interdisciplinary forum**  
Tuesday August 9, 2022

# Canadian Chant Database

- **Lists of manuscripts** in Canadian archives and private collections, with links to inventories in the Cantus Database (if available)
- **Lists of fragments** of chant manuscripts in Canadian archives and private collections, with links to inventories (if available) and links to images of the artefacts in Fragmentarium
- Legacy Features: **Canadian Chant Researchers'** bios, bibliographies, and links to resources/work
- Potential online access for Indigenous chant materials, at the request of and with the needs of each community in mind



# OldCantus to NewCantus: Challenges and Design Choices



# Outline

- Motivation
- Status
- Challenge: Drupal's Nodes and Backwards Compatibility
- Design Choice: Visibility (who can see what?)
- Design Choice: Users and Indexers



## NewCantus: Motivation

- OldCantus in Drupal: Drupal 7 nearing end-of-life
  - NewCantus in Django (PostgreSQL backend)
- OldCantus is not open-source
  - NewCantus is open-source
- Opportunity for an overhaul

## NewCantus: Status

- Soft launch: late June, 2023
- Full launch: MedRen, July 24, 2023
- <https://cantusdatabase.org>

## Design Choice: how do we control who sees what?

- OldCantus has published and visible boolean fields on Sources and Chants
  - Objects could also be at different points in indexing process
- NewCantus has a single published boolean field, and only on Sources
- Anonymous users can see only published Sources, and only those Chants contained within published Sources
- Logged-in users can see all Sources and all Chants

## Nodes and redirects

- OldCantus: all Chants, Sequences, Sources, Articles, etc. stored in a single table, as Nodes
  - Nodes numbered sequentially
  - <https://cantus.uwaterloo.ca/node/712335> vs. </article/712335>
  - <https://cantus.uwaterloo.ca/node/712336> vs. </chant/712336>
- NewCantus: Django stores Chants, Sequences, Sources, Articles, etc. in separate tables

## Nodes and redirects

- NewCantus solution: new objects numbered from 1,000,000
- User tries to visit <https://cantusdatabase.org/node/number>:
  - number < 1,000,000: attempt to redirect
  - number  $\geq$  1,000,000: 404 Not Found

## Users and Indexers

- OldCantus: two different objects to represent a person: User and Indexer
  - User: can log in to site
  - Indexer: used to recognize contributions to Cantus Database
- NewCantus: one type of object: User. User has boolean property `is_indexer`



## Merging Indexers and Users

### User

- name: Debra Lacoste
- id: 123
- created: Source 1
- email: debra.lacoste@example.com

### Indexer

- name: Debra Lacoste
- id: 789
- indexed: Source 2, Source 3

# Merging Indexers and Users

## User

- name: Debra Lacoste
- id: 123
- old\_indexer\_id: 789
- created: Source 1
- indexed: Source 2, Source 3
- email: debra.lacoste@example.com
- is\_indexer: True

## Creating new users for Indexers

# Indexer

- name: John Prester
- id: 456
- indexed: Source 4, Source 5, Source 6

## Creating new users for Indexers

### User

- name: John Prester
- id: 456
- indexed: Source 4, Source 5, Source 6
- email: [e3c0dc2c@fakeemail.com](mailto:e3c0dc2c@fakeemail.com)
- is\_indexer: True



# Thank You!

Debra Lacoste, [debra.lacoste@dal.ca](mailto:debra.lacoste@dal.ca)

Jacob deGroot-Maggetti, [jacob.degroot-maggetti@mail.mcgill.ca](mailto:jacob.degroot-maggetti@mail.mcgill.ca)

**SIMSSA** | Single Interface for Music  
| Score Searching and Analysis

**DDMAL** DISTRIBUTED DIGITAL MUSIC  
ARCHIVES & LIBRARIES LAB

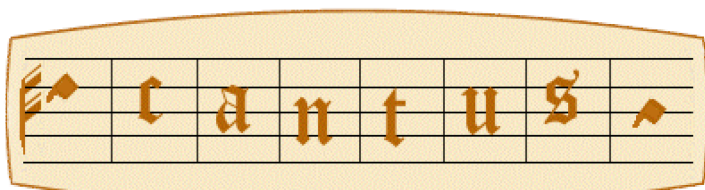


Schulich School of Music  
École de musique Schulich

**CIR** Centre for Interdisciplinary Research  
**MMT** in Music Media and Technology

Digital Research  
Alliance of Canada

Alliance de recherche  
numérique du Canada



CANTUS: A Database for Latin Ecclesiastical Chant

Fonds de recherche  
Société et culture  
**Québec**



Calcul Québec



DIGITAL ANALYSIS OF CHANT TRANSMISSION  
<https://dact-chant.ca>

**SSHRC**  **CRSH**  
Social Sciences and Humanities Research Council  
Conseil de recherches en sciences humaines  
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