

# Fabian C. Moss | Curriculum Vitae

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## Employment

<b>Julius-Maximilians-Universität Würzburg (JMU)</b> <i>Digital Music Philology and Music Theory, Würzburg, Germany</i>	<b>Assistant Professor</b> 2022/12–present
<b>University of Amsterdam (UvA)</b> <i>Cultural Analytics, Media Studies Department &amp; Data Science Center, Amsterdam, The Netherlands</i>	<b>Research Fellow</b> 2022/01–2022/11
<b>École Polytechnique Fédérale de Lausanne (EPFL)</b> <i>Digital and Cognitive Musicology Lab (DCML), Lausanne, Switzerland</i>	<b>Postdoctoral Researcher</b> 2020/02–2021/12
<b>École Polytechnique Fédérale de Lausanne (EPFL)</b> <i>Digital and Cognitive Musicology Lab (DCML), Lausanne, Switzerland</i>	<b>Doctoral Assistant</b> 2017-09–2020/01
<b>Technische Universität Dresden (TUD)</b> <i>Dresden Music Cognition Lab (DMCL), Dresden, Germany</i>	<b>Doctoral Assistant</b> 2015/01–2017/08
<b>Musikschule Leverkusen</b> <i>Project “Jedem Kind seine Stimme” (JEKISS), Leverkusen, Germany</i>	<b>Conductor and vocal coach</b> 2012/11–2014/12

## Education

<b>École Polytechnique Fédérale de Lausanne (EPFL)</b> <i>Digital and Cognitive Musicology Lab (DCML), Lausanne, Switzerland</i>	<b>PhD student</b> 2017/09–2019/12
<b>Massachusetts Institute of Technology (MIT)</b> <i>Department of Linguistics and Philosophy, Cambridge, MA, USA</i>	<b>Visiting Student</b> 2016/01–2016/03
<b>Technische Universität Dresden (TUD)</b> <i>Dresden Music Cognition Lab (DMCL), Dresden, Germany</i>	<b>PhD student</b> 2015/01–2017/08
<b>Escola Superior de Musica de Catalunya (ESMUC)</b> <i>Barcelona, Spain</i>	<b>ERASMUS Exchange Student</b> 2012/01–2012/04
<b>Hochschule für Musik und Tanz Köln (HfMT)</b> <i>Musicology, Cologne, Germany</i>	<b>Master of Arts</b> 2011/04–2013/09
<b>Hochschule für Musik und Tanz Köln (HfMT)</b> <i>Music Education (Piano Major), Cologne, Germany</i>	<b>Staatexamen [State Examination]</b> 2008/04–2013/09
<b>Universität zu Köln (UzK)</b> <i>Mathematics and Educational Sciences, Cologne, Germany</i>	<b>Staatexamen [State Examination]</b> 2006/10–2016/09
<b>Friedrich-Wilhelm-Gymnasium Köln (FWG)</b> <i>Cologne, Germany</i>	<b>Abitur [German High School Diploma]</b> 2002/09–2005/06

## Service

### Memberships

**06/2023–present** University of Wuerzburg *Graduate School Humanities*, classes “Digital Humanities” & “Philosophy, Languages, Arts”  
**12/2022–present** Deutsche Gesellschaft Juniorprofessur (DGJ); Arbeitskreis “Philologie und Digitalität” (JMU) **10/2022–present** European COST Action *EarlyMuse* (2022–2026), Working Groups 2 (Sources) & 3 (Publications) <https://www.cost.eu/actions/CA21161/>  
**11/2021–present** Deutscher Hochschulverband (DHV); **11/2021–present** European Society for the Cognitive Sciences of Music (ESCOM);  
**09/2021–present** International Society for Music Information Retrieval (ISMIR); **05/2020–12/2021** EPFL Data Champions Community;  
**10/2019–present** Gesellschaft für Musikforschung (GfM); **10/2018–present** Gesellschaft für Musiktheorie (GMTH); **02/2018–12/2022** UNIL-EPFL Centre for Digital Humanities (dhCenter); **03/2015–08/2017** Dresden Technical University Graduate Academy

### Responsibilities

**08/2023–present** Scientific advisory board of *Corpus Monodicum* project **2023** Program Committee Member for International Conference on Multimedia Retrieval **2022** Scientific Committee for Workshop on Computational Methods in the Humanities 2022 (COMHUM 2022); **2021** Programm Committee for 2nd Conference on Computational Humanities Research (CHR2021); **since 2020** Co-Chair of the Music Analysis Interest Group of the *Music Encoding Initiative* (MEI); **2018–2019** Co-founder and vice-president of the Digital Humanities Student Association *dhelta* at EPFL; **2012/10–2013/09** Financial officer for General Students’ Committee, HfMT

## Reviewer activity

**Journals:** *Digital Scholarship in the Humanities*; *Empirical Musicology Review*; *Music and Science*; *Music Theory and Analysis*; *Royal Society Open Science*; *Transactions of the International Society of Music Information Retrieval*; *Zeitschrift der Gesellschaft für Musiktheorie*

**Conferences:** *Computational Humanities Research (CHR)*; *Conference of the European Society for the Cognitive Sciences of Music (ESCOM)*; *International Conference on Multimedia Retrieval (ICMR)*; *International Conference on Music Perception and Cognition (ICMPC)*; *International Conference of Students of Systematic Musicology (SysMus)*; *Jahrestagung der Gesellschaft für Informatik (GI)*, *Workshop zu Informatik und Digital Humanities (InfDH)*

## Organization

**2023:** Lecture series “CODAMUS: Computational and Digital Approaches to Music Scholarship”, 18 October, 2023–07 February, 2024. Zentrum für Philologie und Digitalität (ZPD), JMU, Würzburg, Germany. <https://codamus.pubpub.org/>

Kontrapunkt-Werkstatt “Latest Tools for Analyzing Early Music”, with Hansjörg Ewert, Florian Vogt, & Ugo Bindini, 20–21 October, Würzburg, Germany. <https://www.musikwissenschaft.uni-wuerzburg.de/diversa/tagungen/basel23/>

Open project space for 16 contributions “Methoden und Ziele digitaler Musikwissenschaft: Ein Marktplatz aktueller Forschung”, with Stefanie Acquavella-Rauch, Martin Albrecht-Hohmeier, Irmlind Capelle, Jürgen Diet, & Jens Dufner. Jahrestagung der Gesellschaft für Musikforschung, 4–7 October, 2023, Saarbrücken, Germany.

<https://www.uni-saarland.de/methoden-und-ziele-digitaler-musikwissenschaft-ein-marktplatz-aktueller-forschung.html>

**2022:** CREATE Salon on “Computational Creativity”, 23 November 2022, *Creative Amsterdam: An E-Humanities Perspective*, Media Studies Department, University of Amsterdam, The Netherlands. <https://www.create.humanities.uva.nl/events/computational-creativity/>

Workshop “Representing Harmony: Goals and Challenges”, with Johannes Hentschel, Markus Neuwirth & Martin Rohrmeier. 13–16 September 2022, Digital and Cognitive Musicology Lab, École Polytechnique Fédérale de Lausanne, Switzerland. <https://www.epfl.ch/labs/dcml/workshops/representing-harmony/>

**2021:** Workshop “Musik – Schrift – Digitalität” [Music – Writing – Digitality], with Dennis Ried and Daniel Fütterer. 13–14 December 2021, Hochschule für Musik, Karlsruhe, Germany.

**2019:** Workshop “Schenkerian and Tonfeld Theory for Music Analysis”. 12–15 December 2019, Digital and Cognitive Musicology Lab, École Polytechnique Fédérale de Lausanne, Switzerland.

<https://memento.epfl.ch/event/masterclass-schenkerian-and-tonfeld-theory-for-mus/>

First Swiss Digital Humanities Exchange, with Jessica Pidoux, Gerhad Lauer, and Stefan Münnich. 8–9 February 2019, DH Lab, University of Basel, Switzerland. <https://sites.google.com/view/dhexchange/>

**2015:** Co-organization of lecture series “Systematic Musicology: Perception and Cognition of Music”, lead: Martin Rohrmeier. Dresden Music Cognition Lab, Technical University Dresden, Germany.

**2013:** Co-organization of the international conference “Musical Metre in Comparative Perspective”, lead: Hans Neuhoff and Rainer Polak. 4–6 April 2013, Hochschule für Musik und Tanz Köln, Germany.

## Funding

### Grants

#### WueDIVE – Digitale Innovationen in der Lehre

EUR 3,915

*Virtual tonal spaces (VTS): towards an interactive digital environment for music theory*

2023/10–2024/06

Fabian C. Moss

#### Julius-Maximilians-Universität Würzburg

EUR 8,310

*Start-up funding to prepare grant application [Anschubförderung zur Antragsstellung]*

2022/12–2023/11

Fabian C. Moss

#### Durham University Seedcorn Grant

GBP 7,475

*Funding for proof-of-concept study to support larger grant application*

2022/06–2023/05

Tuomas Eerola, Fabian C. Moss

#### University of Amsterdam Data Science Centre Accelerate Program (Matching Funding)

EUR 192,000

*Data Scientists/Engineers Cultural Data Access & Visualization, Spatial Humanities, Cultural Data Analysis*

2022/04–2024/12

Tobias Blanke, Fabian C. Moss, Julia Noordegraaf, & Thomas Poell

#### dhCenter UNIL-EPFL project fund

CHF 2'880

*Enabling interactive music visualization for a wider community*

2021/07–2021/09

Fabian C. Moss & Daniel Harasim

#### Collaborative Research on Science and Society (CROSS)

CHF 59'565

*Digitizing the Dualism Debate: A Case Study in the Computational Analysis of Historical Music Theory Sources*

2021/01–2021/12

Fabian C. Moss & François Bavaud

## Awards and scholarships

**2016–2017:** Konrad Adenauer Foundation, PhD Scholarship; **2016/08:** TUD Graduate Academy, Travel Award; **2016/01–03:** Deutscher Akademischer Austauschdienst (DAAD), great!ipid4all (group2group exchange for academic talents); **2014/09:** Society for Education and

## Publications

### Journal articles

- Moss, F. C.**, Neuwirth, M., & Rohrmeier, M. (2022). The line of fifths and the co-evolution of tonal pitch-classes. *Journal of Mathematics and Music*, 17(2), 173–197. <https://doi.org/10.1080/17459737.2022.2044927>
- Viaccos, C., Harasim, D., **Moss, F. C.**, & Rohrmeier, M. (2022). Wavespaces: A visual hierarchical analysis of tonality using the discrete Fourier transform. *Musicae Scientiae*, 10298649211034906. <https://doi.org/10.1177/10298649211034906>
- Harasim, D., **Moss, F. C.**, Ramirez, M., & Rohrmeier, M. (2021). Exploring the foundations of tonality: Statistical cognitive modeling of modes in the history of Western classical music. *Humanities and Social Sciences Communications*, 8(1), 1–11. <https://doi.org/10.1057/s41599-020-00678-6>
- Moss, F. C.**, & Neuwirth, M. (2021a). FAIR, Open, Linked: Introducing the Special Issue on Open Science in Musicology. *Empirical Musicology Review*, 16(1), 1–4. <https://doi.org/10.18061/emr.v16i1.8246>
- Moss, F. C.**, & Rohrmeier, M. (2021). Discovering Tonal Profiles with Latent Dirichlet Allocation. *Music & Science*, 4. <https://doi.org/10.1177/20592043211048827>
- Lieck, R., **Moss, F. C.**, & Rohrmeier, M. (2020). The Tonal Diffusion Model. *Transactions of the International Society for Music Information Retrieval*, 3(1), 153–164. <https://doi.org/10.5334/tismir.46>
- Moss, F. C.**, Souza, W. F., & Rohrmeier, M. (2020). Harmony and form in Brazilian Choro: A corpus-driven approach to musical style analysis. *Journal of New Music Research*, 49(5), 416–437. <https://doi.org/10.1080/09298215.2020.1797109>
- Moss, F. C.**, Neuwirth, M., Harasim, D., & Rohrmeier, M. (2019). Statistical characteristics of tonal harmony: A corpus study of Beethoven's string quartets. *PLoS ONE*, 14(6), e0217242. <https://doi.org/10.1371/journal.pone.0217242>
- Popescu, T., Neuser, M. P., Neuwirth, M., Bravo, F., Mende, W., Boneh, O., **Moss, F. C.**, & Rohrmeier, M. (2019). The pleasantness of sensory dissonance is mediated by musical style and expertise. *Scientific Reports*, 9(1), 1070. <https://doi.org/10.1038/s41598-018-35873-8>
- Neuwirth, M., Harasim, D., **Moss, F. C.**, & Rohrmeier, M. (2018). The Annotated Beethoven Corpus (ABC): A Dataset of Harmonic Analyses of All Beethoven String Quartets. *Frontiers in Digital Humanities*, 5(July), 1–5. <https://doi.org/10.3389/fdigh.2018.00016>
- Harasim, D., Affatato, G., & **Moss, F. C.** (2022). midiVERTO: A Web Application to Visualize Tonality in Real Time. In M. Montiel, O. A. Agustín-Aquino, F. Gómez, J. Kastine, E. Lluís-Puebla, & B. Milam (Eds.), *Mathematics and Computation in Music* (pp. 363–368). Springer International Publishing. [https://doi.org/10.1007/978-3-031-07015-0\\_31](https://doi.org/10.1007/978-3-031-07015-0_31)
- Hentschel, J., **Moss, F. C.**, McLeod, A., Neuwirth, M., & Rohrmeier, M. (2022). Towards a unified model of chords in Western harmony. In S. Münnich & D. Rizo (Eds.), *Music Encoding Conference Proceedings 2021* (pp. 143–149). Humanities Commons. <https://doi.org/10.17613/4crx-fr36>
- Moss, F. C.**, Affatato, G., & Harasim, D. (2022, July). Phantom Curves: Scientific Discovery through Interactive Music Visualization. In L. Pugin (Ed.), *9th International Conference on Digital Libraries for Musicology* (pp. 60–64). Association for Computing Machinery. <https://doi.org/10.1145/3543882.3543886>
- Moss, F. C.**, Nápoles López, N., Köster, M., & Rizo, D. (2022b). Challenging sources: A new dataset for OMR of diverse 19th-century music theory examples. In J. Calvo-Zaragoza, A. Pacha, & E. Shatri (Eds.), *Proceedings of the 4th International Workshop on Reading Music Systems (WoRMS 2022)* (pp. 4–8). <https://sites.google.com/view/worms2022/proceedings>
- Anzuoni, E., Ayhan, S., Dutto, F., McLeod, A., **Moss, F. C.**, & Rohrmeier, M. (2021, June). A Historical Analysis of Harmonic Progressions Using Chord Embeddings. In D. A. Mauro, S. Spagnol, & A. Valle (Eds.), *Proceedings of the 18th Sound and Music Computing Conference* (pp. 284–291). <https://doi.org/10.5281/zenodo.5038910>
- Hentschel, J., **Moss, F. C.**, Neuwirth, M., & Rohrmeier, M. (2021). A semi-automated workflow paradigm for the distributed creation and curation of expert annotations. In J. H. Lee, A. Lerch, Z. Duan, J. Nam, P. Rao, P. van Kranenburg, & A. Srinivasamurthy (Eds.), *Proceedings of the 22nd International Society for Music Information Retrieval Conference, ISMIR 2021, Online, November 7-12, 2021* (pp. 262–269). <https://archives.ismir.net/ismir2021/paper/000032.pdf>
- Moss, F. C.**, Köster, M., Femminis, M., Métrailler, C., & Bavaud, F. (2021). Digitizing a 19th-Century Music Theory Debate for Computational Analysis. In M. Ehrmann, F. Karsdorp, M. Wevers, T. L. Andrews, M. Burghardt, M. Kestemont, E. Manjavacas, M. Piotrowski, & J. van Zundert (Eds.), *CHR 2021: Computational Humanities Research Conference, November 17–19, 2021, Amsterdam, The Netherlands* (pp. 159–170).
- Rohrmeier, M., & **Moss, F. C.** (2021). A Formal Model of Extended Tonal Harmony. In J. H. Lee, A. Lerch, Z. Duan, J. Nam, P. Rao, P. van Kranenburg, & A. Srinivasamurthy (Eds.), *Proceedings of the 22nd International Society for Music Information Retrieval Conference, ISMIR 2021, Online, November 7-12, 2021* (pp. 569–578).
- Landnes, K., Mehrabyan, L., Wiklund, V., Lieck, R., **Moss, F. C.**, & Rohrmeier, M. (2019). A Model Comparison for Chord Prediction on the Annotated Beethoven Corpus. In I. Barbancho, L. J. Tardón, A. Peinado, & A. M. Barbancho (Eds.), *Proceedings of the 16th Sound & Music Computing Conference (SMC 2019)* (pp. 250–254). <https://doi.org/10.5281/zenodo.3249335>

### Conference papers

- Eipert, T., & **Moss, F. C.** (2023b, November). MonodiKit: A data model and toolkit for medieval monophonic chant. In M. E. Thomae (Ed.), *Proceedings of the 10th International Conference on Digital Libraries for Musicology* (pp. 67–71). Association for Computing Machinery. <https://doi.org/10.1145/3625135.3625145>
- Bracks, C., & **Moss, F. C.** (2022, May). Totoli's Art of Leleges: Analyzing Sociocultural Context and Musical Content. In I. Ali-MacLachlan & A. Holzapfel (Eds.), *FMA2022: International Workshop on Folk Music Analysis* (pp. 1–5). <https://doi.org/10.31219/osf.io/5tsxa>



**Moss, F. C.** (2014). Tonality and functional equivalence: A multi-level model for the cognition of triadic progressions in 19th century music. In K. Jakubowski, N. Farrugia, & D. Müllensiefen (Eds.), *International Conference of Students of Systematic Musicology – Proceedings* (pp. 1–8).

## Book chapters

**Moss, F. C.** (in press). Transatlantic transformations: How Riemannian is Neo-Riemannian theory? In S. Keym & C. Hust (Eds.), *Hugo Riemann: Musikforschung zwischen Universalität, Nationalismus und internationaler Ausstrahlung*.

## Edited volumes and chapters

Analysis Markup and Harmonies. (2023). In A. Seipelt & **F. C. Moss** (Eds.), J. Kepper & P. D. Roland (Eds.), *The Music Encoding Initiative Guidelines* (Version 5.0, pp. 299–324).

**Moss, F. C.**, & Neuwirth, M. (Eds.). (2021b). Special Issue on Open Science in Musicology. *Empirical Musicology Review*, 16(1), 1–4. <https://doi.org/10.18061/emr.v16i1.8246>

## Book reviews

**Moss, F. C.** (2017). [Review of David Huron. Voice Leading: The Science behind a Musical Art]. *Music Theory & Analysis*, 4(1), 119–130. <https://doi.org/10.11116/MTA.4.1.71>

## Data sets

Eipert, T., & **Moss, F. C.** (2023a, October). *Corpus Troporum Dataset*. OSF. <https://doi.org/10.17605/OSF.IO/FKDDQ5>

**Moss, F. C.**, Nápoles López, N., Köster, M., & Rizo, D. (2022a, September). 19MT-OMR: A dataset for multimodal Optical Music Recognition (Data Report). Data Report. OSF. <https://doi.org/10.17605/osf.io/QM9Z5>

## Outreach

### Invited talks and workshops

**2023:** **Moss, F. C.** 10 secret rules for a degree in DH—you won't believe no. 7!! 1st DH Alumni Event, 17 November 2023. Digital Humanities Institute, École Polytechnique Fédérale de Lausanne, Switzerland.

**Moss, F. C.** Counting notes: Research questions and methods in music corpus studies. Seminar “History and Theory of Digital Humanities”, Université de Lausanne, Lausanne, Switzerland, 12 October 2023.

**Moss, F. C.** Töne zählen: Forschungsfragen und Methoden musikwissenschaftlicher Korpusstudien in historischer und epistemologischer Perspektive. Talk in lecture series “Transdisziplinäre Aspekte digitaler Methodik in den Geistes- und Kulturwissenschaften”, Leibniz-Institut für Europäische Geschichte, Mainz, Germany, 28 June, 2023.

**Moss, F. C.** Musik Er-Zählen: Einblicke in die digitale Korpusforschung. Vortrag im Institutskolloquium des Instituts für Musikforschung, JMU, 20 June, 2023.

**Moss, F. C.** Respondent to Sanja Kiš Žuvela: *Musical Terminology, Digital Corpus Management and Translation*. GMTH International Music Theory Lectures. 9 February, 2023.

Workshop “Decoding Musical Structure: Theory, Computation, and Neuroscience”. Congressi Stefano Franscini, Monte Verità, 5–9 February, 2023.

**Moss, F. C.** (2020a, June 6). *Choro Songbook Corpus*. Zenodo. <https://doi.org/10.5281/zenodo.3881347>

**Moss, F. C.**, Neuwirth, M., & Rohrmeier, M. (2020). *Tonal Pitch-Class Counts Corpus (TP3C)*. Zenodo. <https://doi.org/10.5281/zenodo.3600088>

**Moss, F. C.**, Loayza, T., & Rohrmeier, M. (2019, July 1). *Pitchplots*. <https://doi.org/10.5281/zenodo.3265393>

## Blog posts

**Moss, F. C.** (2023, September 26). Vorsicht, Sackgasse! Ein Plädoyer für mehr Intradisziplinarität. musiconn.kontrovers – Blog des FID Musikwissenschaft. [https://kontrovers.musiconn.de/2023/09/26/digitalitaet\\_moss/](https://kontrovers.musiconn.de/2023/09/26/digitalitaet_moss/)  
English version: <https://osf.iohttps://osf.io/98zxn/>.

**Moss, F. C.** (2020b, October 5). A computational model for note distributions in musical pieces. Digital and Cognitive Musicology Lab News Blog. <https://www.epfl.ch/labs/dcml/computational-model-note-dists/>

**Moss, F. C.** (2020c, September 28). Tracing historical changes in the exploration of tonal space. Digital and Cognitive Musicology Lab News Blog. <https://www.epfl.ch/labs/dcml/tracing-historical-changes/>

## Theses

**Moss, F. C.** (2019). *Transitions of tonality: A model-based corpus study* [Doctoral dissertation, École Polytechnique Fédérale de Lausanne]. <https://doi.org/10.5075/epfl-thesis-9808>

**Moss, F. C.** (2012, November). “Theorie der Tonfelder” nach Simon und “Neo-Riemannian Theory”: Systematik, historische Bezüge und analytische Praxis im Vergleich [Master’s thesis, Hochschule für Musik und Tanz Köln]. <https://doi.org/10.5281/zenodo.4748512>

**2022:** **Moss, F. C.** *Music Stylogometry—the Case of Choro*. Music Cognition Lab Meeting, Princeton University [online], 2 November, 2022.

**Moss, F. C.** *Learning about Machine Learning with CRIM*. Digital Counterpoints: Exploring Similarity in Renaissance Music, October 20–22, 2022, Haverford College, Department of Music, Haverford, PA.

**Moss, F. C.** *midivERTO: A web-based tool to make computational music analysis more accessible*. Institute für Musik und Musikwissenschaft, Technische Universität Dortmund, Germany, 28 April.

**Moss, F. C.** *Interactive Music Analysis using the DFT and Pitch-Class Distributions extracted from MIDI files*. Faculdade de Engenharia da Universidade do Porto (FEUP), Porto, Portugal, 4 April 2022.

**Moss, F. C.** *Music Theory and the Discrete Fourier Transform*. Cognitive and Systematic Musicology Lab Meeting, The Ohio State University, Columbus, USA [online], 25 March 2022.

**2021:** **Moss, F. C.** *The Science of Music*. EPFL Information Days, 24–25 November 2021, Lausanne, Switzerland. <https://youtu.be/y5TQNo9zDVI>

Rohrmeier, M. & **Moss, F. C.** *Music, Mathematics, and the Geometry of Jazz*. Montreux Jazz Festival, July 11, 2021, Montreux, Switzerland.

**Moss, F. C.** *Boosting Open Research in Empirical Musicology*. EPFL Data Champions Meeting (DCBreak#3). March 18, 2021, Lausanne,

Switzerland [online].

**2020:** Moss, F. C. *The Importance of Modeling in Computational Musicology*. Round-table on “Probability and Music”, 5th International Congress of Music and Mathematics (MusMat 2020) – Perspectives and Applications of Mathematics in Post-Tonal Theories («Homage to Jarmy Oliveira»), December 8–12, Rio de Janeiro, Brazil [online].

**Moss, F. C.** *Computational Musicology and the Digital Humanities: Problems, Practices, and Prospects*. CRETA-Werkstatt #9, Center for Reflected Text Analytics, University of Stuttgart, February 18, 2020, Stuttgart, Germany.

**2019:** Moss, F. C. *Tracing the History of Tonality with Note Distributions*. “Corpus Research as a Means of Unlocking Musical Grammar” International Research Workshop, July 1–4, 2019, Tel-Aviv, Israel.

**2018:** Moss, F. C. *Corpus Research in Digital Musicology*. Seminar “Willkommen in der Matrix: Digitale Anwendungen für die Musikanalyse in Theorie und Praxis”, University of Basel, Basel, Switzerland.

**2017:** Moss, F. C. *Formal Grammars and Ambiguity in Extended Tonality*. Workshop and Symposium on Schenkerian Analysis “Wege der Kreativität – Zwischen Erfindung und Rekonstruktion”, Universität der Künste, Berlin, Germany.

**Moss, F. C.** *From Beethoven to Brazil: Digital Musicology at EPFL*. Digital Synergies: Ca’ Foscari meets École Polytechnique Fédérale de Lausanne. Global Challenges Seminar - Team “Creative arts, cultural heritage and digital humanities”, Venice, Italy.

**Moss, F. C.** *Musik und Sprache*. Talk for Student Association “Denkzettel”, TUD, Dresden, Germany.

**2016:** Moss, F. C. *Extended Tonality: Theoretical Challenges and their Relation to the Neuroscientific Study of Musical Syntax*. Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany.

**Moss, F. C.,** Rohrmeier, M. *Towards a syntactic account for harmonic sequences in extended tonality*. Syntax Square Meeting, Massachusetts Institute of Technology, Department of Linguistics and Philosophy, Cambridge, USA.

**Moss, F. C. & Harasim, D.** *Extended Tonality and Music Cognition*. Symposium “Towards a World Music Theory”, University of Hamburg, Institute for Systematic Musicology, Hamburg, Germany.

## Conference presentations

**2023:** Nakamura, E., Eipert, T. & Moss, F. C.. *Historical Changes of Modes and their Substructure Modeled as Pitch Distributions in Plainchant from the 1100s to the 1500s*. 16th International Symposium on Computer Music Multidisciplinary Research (CMMR2023), 13–17 November 2023, Tokyo, Japan.

Eipert, T. & Moss, F. C. *MonodiKit: A data model and toolkit for the Corpus Monodicum*. The 10th International Conference on Digital Libraries for Musicology (DLfM ’23), 10 November 2022, Milano, Italy.

Eipert, T. & Moss, F. C. *Communities in Medieval Troper Networks are Shaped by Carolingian Politics*. Poster. The 10th International Conference on Digital Libraries for Musicology (DLfM ’23), 10 November 2022, Milano, Italy.

Yust, J., Affatato, G., & Moss, F. C.. *Animated Harmonic Analysis Using DFT Phase Spaces and Coefficient Products*. Joint Annual Meet-

ing of the American Musicological Society (AMS) and the Society for Music Theory (SMT), 9–12 November 2023, Denver, Colorado.

**Moss, F. C.** *Korpusforschung und Digitale Edition: ein Plädoyer für stärkere Intradisziplinarität*. Beitrag im Panel “Musikalische Korpusforschung: Aktuelle Trends und Herausforderungen”, mit Markus Neuwirth, Martin Rohrmeier, Christof Weiß, Johannes Hentschel & Maik Köster. Jahrestagung der Gesellschaft für Musikforschung, 4–7 October, 2023, Saarbrücken, Germany.

Eipert, T., Frieler, K., & Moss, F. C. *Inside or Outside: The Use of Scales in Jazz Solo Improvisations*. Poster. Jahrestagung der Gesellschaft für Musikforschung, 4–7 October, 2023, Saarbrücken, Germany.

**Moss, F. C.** [Cancelled.] *Star Plots: eine neue Methode zur Visualisierung harmonischer Pfade für vierstimmige Kompositionen*. 23. Jahreskongress der Gesellschaft für Musiktheorie (GMTH) “Musiktheorie und Künstlerische Forschung”, 22–24 September 2023, Hochschule für Musik Freiburg, Freiburg im Breisgau, Germany.

Roeder, T., Köster, M., & Moss, F. C. *Music-Text Interlinking as a Challenge for Digital Encodings of Music-Theoretical Writings*. Encoding Cultures – Joint MEC and TEI Conference 2023, 4–8 September 2023, Zentrum Musik – Edition – Medien (ZenMEM), Paderborn, Germany.

Eipert, T. & Moss, F. C. *A system of trope elements: using network models to understand interrelations within the transmission of trope complexes*. Annual International Medieval and Renaissance Music Conference (MedRen) 2023, 24–28 July, 2023, Munich, Germany.

**2022:** Moss, F. C., Nápoles López, N., Köster, M. & Rizo, D. *Challenging sources: a new dataset for OMR of diverse 19th-century music theory examples*. 4th International Workshop on Reading Music Systems (WoRMS 2022), 18 November 2022 [online].

Köster, M. & Moss, F. C. *Der harmonische Dualismus und seine Entwicklung zum ‘Streit- und Angelpunkt der Musiktheorie’ – eine Diskursanalyse*. Jahrestagung der Gesellschaft für Musikforschung. Nach der Norm: Musikwissenschaft im 21. Jahrhundert, 29 September – 1 October 2022, Humboldt-Universität Berlin, Berlin, Germany.

**Moss, F. C. & Métrailler, C.** [Cancelled.] *Reading Music Theory from a Distance: A Corpus Study of the Thesaurus Musicarum Italicarum*. 21st Quinquennial Congress of the International Musicological Society (IMS2022), 22–26 August 2022, Athens, Greece.

**Moss, F. C.,** Affatato, G. & Harasim, D. *Phantom Curves: Scientific Discovery through Interactive Music Visualization*. The 9th International Conference on Digital Libraries for Musicology (DLfM), In association with the annual conference of the International Association of Music Libraries (IAML), 28 July 2022, Prague, Czech Republic.

Harasim, D., Affatato, G., & Moss, F. C.. *midivERTO: A Web Application to Visualize Tonality in Real Time*. 8th International Conference on Mathematics and Computation in Music (MCM2022). Georgia State University, Atlanta, USA, 21–24 June 2022.

Bracks, C. & Moss, F. C. *Totoli’s Art of Lelegesan: Analyzing Sociocultural Context and Musical Content*. 10th International Workshop on Folk Music Analysis 2022 (FMA2022), University of Sheffield, Sheffield, UK, June 14–17, 2022.

Meng, S., Moss, F. C., & Rohrmeier, M. *Revisiting Tong Yun San Gong theory in Chinese music: a corpus study of Chinese folksongs*. 7th Analytical Approaches to World Music Conference (AAWM2022),

- University of Sheffield, Sheffield, UK, June 14–17, 2022.
- 2021: Moss, F. C.,** Köster, M., Femminis, M., Métrailler, C., & Bavaud, F. *Digitizing a 19th-century music theory debate for computational analysis*. CHR 2021: Computational Humanities Research Conference, November 17–19, 2021, Amsterdam, The Netherlands [online].
- Moss, F. C.** *Polytonality and the Emergence of Tone Fields in Tailleferre's Pastorale*. 21. Jahreskongress der Gesellschaft für Musiktheorie (GMTH) – Tonsysteme und Stimmungen. October 1–3, 2021, Musik-Akademie Basel/Hochschule für Musik (FHNW), Basel, Switzerland.
- Hentschel, J., **Moss, F. C.**, Markus Neuwirth, & Rohrmeier, M. *Die Entwicklung der tonalen Sprache in Beethovens Streichquartetten: Eine vergleichende Korpusstudie der Schaffensphasen*. XVII. Internationaler Kongress der Gesellschaft für Musikforschung, Universität Bonn, Abteilung für Musikwissenschaft/Sound Studies und Beethoven-Archiv des Beethoven-Hauses Bonn Bonn, Germany, September 28 – October 1 2021, Bonn, Germany.
- Moss, F. C.** *Digitizing the Dualism Debate: a case study in the computational analysis of historical music theory sources*. CROSS 2021 Event. 16 September 2021, École Polytechnique Fédérale de Lausanne/Université de Lausanne, Lausanne, Switzerland.
- Moss, F. C.**, Herff, S. A., & Rohrmeier, M. *Modeling perceived tonal stability of individual and aggregated listener responses for scales and cadences*. 16th International Conference on Music Perception and Cognition & 11th triennial conference of the European Society for the Cognitive Sciences of Music. July 28–31, Sheffield, UK [online].
- Moss, F. C.**, Herff, S. A., & Rohrmeier, M. *Individual perception of diatonic scales predicts perceived tonal fit in octatonic and hexatonic contexts*. 16th International Conference on Music Perception and Cognition & 11th triennial conference of the European Society for the Cognitive Sciences of Music. July 28–31, Sheffield, UK [online].
- Hentschel, J., **Moss, F. C.**, McLeod, A., & Rohrmeier, M. *Towards a Unified Model of Chords in Western Harmony*. Music Encoding Conference [online].
- Anzuoni, E., Ayhan, S., Dutto, F., McLeod, A., **Moss, F. C.**, & Rohrmeier, M. *A Historical Analysis of Harmonic Progressions Using Chord Embeddings*. 18th Sound and Music Computing Conference [online].
- Moss, F. C.** *Discovering the line of fifths in a large historical corpus*. Future Directions of Music Cognition, The Ohio State University, March 6–7, 2021, Columbus, OH [online]. <https://doi.org/10.17605/OSF.IO/J5W6T>
- 2020: Moss, F. C.** *Analyzing musical pieces on the Tonnetz using the pitchplots Python library*. 20. Jahreskongress der Gesellschaft für Musiktheorie (GMTH), Hochschule für Musik Detmold, October 1–4, 2020, Detmold, Germany [online].
- Moss, F. C.** *Data-Driven Music History*. Workshop for the International Conference of Students of Systematic Musicology, York University, September 14, 2020, York, UK [online].
- 2019: Moss, F. C.** *Transitions of Tonality: Perspectives on the Historical Changes of Tonal Pitch Relations from Computational Musicology, Music Theory, and the Digital Humanities*. University of Cologne, November 29, 2019, Cologne, Germany.
- Moss, F. C.** *Inferring Tonality from Note Distributions – Why Models Matter (Poster)*. SEMPRES Graduate Conference 2019, Cambridge, UK.
- Moss, F. C.** *Analyzing Tonality with Note Distributions*. First Swiss Digital Humanities Student Exchange DHX2019, Basel, Switzerland.
- 2018: Moss, F. C.**, Souza, W. F. & Rohrmeier, M. *Harmony and Form in Brazilian Choro: A Corpus Study*. 15th International Conference on Music Perception and Cognition & 10th triennial conference of the European Society for the Cognitive Sciences of Music, Graz, Austria.
- Aitken, C., O'Donnell, T. & Rohrmeier, M. [Poster presented by **Moss, F. C.**]. *A Maximum Likelihood Model for the Harmonic Analysis of Symbolic Music*. 15th Sound and Music Computing Conference “Sonic Crossings”. Limassol, Cyprus.
- Harasim, D., **Moss, F. C.** & Ramirez, M. *A Brief History of Tonality (Poster)*. Applied Machine Learning Days, EPFL, Switzerland.
- 2017: Moss, F. C.**, Souza, W. F. & Rohrmeier, M. *Brazilian Choro: A New Data Set of Chord Transcriptions and Analyses of Harmonic and Formal Features*. 17. Jahreskongress der Gesellschaft für Musiktheorie (GMTH) & 27. Arbeitstagung der Gesellschaft für Populärmusikforschung (GfPM) “Populäre Musik und ihre Theorien: Begegnungen – Perspektivwechsel – Transfers”, Graz, Austria.
- Moss, F. C.**, Harasim, D., Neuwirth, M. & Rohrmeier, M. *Beethovens Streichquartette – ein XML-basierter Korpus harmonischer Analysen in einem neuen Annotationssystem*. Jahrestagung der Gesellschaft für Musikforschung, Kassel, Germany.
- Moss, F. C.**, Rohrmeier, M. *Integrating Transformational and Hierarchical Models of Extended Tonality*. 9th European Music Analysis Conference (EuroMAC), Strasbourg, France.
- Rom, U., Jeřulát, A., **Moss, F. C.** & Guter, I. *Ambiguity, Illusion & Timelessness in Late and Post-Tonal Harmony*. Panel discussion at the 9th European Music Analysis Conference (EuroMAC), Strasbourg, France.
- Moss, F. C.**, Rohrmeier, M. & Bravo, F. *Emotional Associations Evoked by Structural Properties of Musical Scales and Abstract Visual Shapes*. KOSMOS Dialogue “Music, Emotion, and Visual Imagery”, Berlin, Germany.
- Harasim, D., **Moss, F. C.**, Neuwirth, M. & Rohrmeier, M. *Beethoven's String Quartets: Introducing an XML-Based Corpus of Harmonic Labels Using a New Annotation System*. Music Encoding Conference, Tours, France.
- 2016: Moss, F. C.**, Rohrmeier, M. *Structural Ambiguities in Language and Music (Poster)*. Helsinki Summer School for Cognitive Neuroscience 2016 (HSSCN 2016).
- Moss, F. C.**, Rohrmeier, M. *A grammatical approach to tension-resolution patterns in extended tonal harmony*. Meeting of the Computational Cognitive Science Group, Massachusetts Institute of Technology, Department of Brain and Cognitive Sciences, Cambridge, USA.
- Moss, F. C.** *Syntax of Extended Tonality: Towards a Grammar of Generalized Harmonic Functions*. Music Theory Colloquium, Boston University, College of Fine Arts, School of Music, Boston, USA.
- Moss, F. C.** *Generalizing Harmonic Functions: A Grammatical Approach to Extended Tonality*. Yale University, Department of Music, New Haven, USA.
- Moss, F. C.** *Music Cognition and Extended Tonality: Theoretical Chal-*

*lenges and Empirical Implications*. Research Colloquium, University of Cologne, Cologne, Germany.

**2015: Moss, F. C.** *On generative modelling of musical form*. Seminar “Mathematics and Music”, TUD, Dresden, Germany.

**Moss, F. C.** ‘*The terror of sanctity*.’ *Tonal cues for resolving dramatic*

*ambiguities in Wagner's Parsifal*. Seminar “Understanding Musical Structures”, TUD, Dresden Germany.

**2014: Moss, F. C.** *Tonality and functional equivalence: A multi-level model for the cognition of triadic progressions in 19th century music*. International conference of Students of Systematic Musicology, Goldsmiths University, London, UK.

## Teaching

**Fall 2023:** “CODAMUS: Computational and Digital Approaches to Music Scholarship” (international lecture series); “Die Entstehung von ‘Tonalität’ im 19. Jahrhundert”, JMU

**Spring 2023:** “Musikalische Korpusforschung”; “Konzepte und Anwendungen der Pitch-Class Set Theory”; “Digitale Tools (nicht nur) für Musikwissenschaftliche Projektarbeiten”, JMU

**Fall 2022:** “Neo-Riemannian Theories: Analysemethoden für erweiterte Tonalität von der Spätromantik bis zur Filmmusik”; “Music Memes: Quantitative Zugänge und Theorien zu kultureller Transmission von Musik”, JMU

**Spring 2021:** “Musical Diversity across Historical Time”, lecture in class “Digital Musicology”, EPFL

**Fall 2020:** “Introduction to Musical Corpus Studies”; “Tonality: Perspectives of historical musicology and corpus studies”, lecture in “Ringvorlesung Musikwissenschaft”, UzK

**Spring 2020:** “Musical improvisation, invention and creativity”, teaching assistant; “Musical Diversity across Historical Time”, lecture in class “Digital Musicology”, EPFL

**Spring 2018:** “Digital Musicology”, teaching assistant, EPFL

**2015–2017:** “Introduction to Musicology” and “Reading Class Musicology”, with Christoph Wald, TUD

**Spring 2013:** “Academic Writing and Research Techniques”, HfMT

## Supervision and mentoring

### PhD thesis supervision

**10/2023–today:** Adrian Nachtwey: “Eine Studie zur textkritischen Analyse von Musikeditionsvarianten im 19. Jahrhundert unter Anwendung von digitalen Methoden” (Musicology), JMU

Tim Eipert: “A Quantitative Perspective on Transmission, Structure, and Modality of Medieval Chant”, Graduate School Humanities (Digital Humanities), JMU

Lucas Hofmann: “Computational modeling of complex temporal and tonal structures in early twentieth-century music”, Graduate School Humanities (Digital Humanities), JMU

**07/2022–today:** Shuxin Meng, Digital Humanities, EPFL (1st supervisor: Martin Rohrmeier)

**Spring 2017:** Willian Fernandes de Souza (peer-mentoring): “Estilo e Sintaxe: quatro ensaios analíticos em práticas do choro” (Music Theory/Composition), Universidade Federal do Rio de Janeiro (UFRJ)

### Master thesis supervision

**Fall 2023:** Francesco Paolo Leonardo La Barbera: “Proportionen, Transformationen oder Tonfelder? Die vergleichende Anwendung dreier musiktheoretischer Ansätze” (Musicology), Universität Leipzig (1st supervisor: Stefan Keym)

**Spring 2023:** Julia Groblewski-Meiser: “Narration und Interpretation: Allegorische Darstellungen einer musikalischen Harmonie im Kuppelfresco von Santa Maria del Fiore von Giorgio Vasari” (Musicology), JMU

Oscar Aquite Pena: “Between millo and picó: music as discursive masking in *La Puntica No Ma'*, costume troupe of the Barranquilla Carnival (Colombia)” (Ethnomusicology), JMU (1st supervisor: Nepomuk Riva)

**Spring 2020:** Cédric Viaccoz (3rd supervisor): “Visual Hierarchical Analysis of Tonality using the Discrete Fourier Transform” (Digital Humanities), EPFL

### Bachelor thesis supervision

**Spring 2023:** Corinna Bongartz: “Musik und Künstliche Intelligenz: Eine Untersuchung der Zuordnung festgelegter Prompts zu durch Sprachmodellen erzeugt Musiksnippets”, Musicology, JMU

**Spring 2022:** Iris Folpmers (2nd supervisor): “Data Sonification: Turning Climate Data into Music” (Artificial Intelligence), UvA, [https://scripties.uba.uva.nl/search?id=record\\_29490](https://scripties.uba.uva.nl/search?id=record_29490)

### Other mentoring

**Fall 2020:** 3 Machine Learning graduate student projects on vector embeddings of harmony (EPFL)

**Fall 2019:** Machine Learning graduate student project on vector embeddings of harmony (EPFL)

**Fall 2018:** 3 Machine Learning graduate student projects on chord prediction with neural networks (EPFL)

**Spring 2018:** 4 Digital Musicology graduate student projects (EPFL)



**Fall 2015:** interdisciplinary project of technical design undergraduate, Technische Universität Dresden (TUD)

## Media coverage

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**Mar 2023:** “Harmonie modellieren”

<https://www.uni-wuerzburg.de/aktuelles/einblick/single/news/harmonie-modellieren/>

**Jan 2021:** “Machine learning helps retrace evolution of classical music”

<https://actu.epfl.ch/news/machine-learning-helps-retrace-evolution-of-clas-2/>

**Aug 2020:** “Bringing computational music analysis beyond the traditional canon”

<https://actu.epfl.ch/news/bringing-computational-music-analysis-beyond-the-t/>

**Jun 2019:** “A Data Science Analysis Finds Beethoven’s Style In His String Quartets”

<https://www.forbes.com/sites/evaamsen/2019/06/06/a-data-science-analysis-finds-beethovens-style-in-his-string-quartets/>

“Decoding Beethoven’s music style using data science”

<https://actu.epfl.ch/news/decoding-beethoven-s-music-style-using-data-scienc/>

**Mar 2019:** “Creating connections in a growing digital humanities community”

<https://actu.epfl.ch/news/creating-connections-in-a-growing-digital-humani-2/>

## Skills

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**Languages:** Python, Latex, HTML, CSS, JavaScript  
German (native), English (fluent), French (fluent), Spanish (basic),  
Portuguese (basic)

**Utilities:** Git, GitHub/Lab, Jupyter Notebook/Lab

## Musical activities

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**2014–2017:** Classical vocal octet *Vokalexkursion*

**2013–2015:** Cologne Cathedral Chamber Choir

**2011–2013:** Cologne Conservatory Chamber Choir

**2008–2013:** Pop a-capella group *gezwungenermaßen*

**since 1994:** Guitar

**since 1993:** Piano