JACOB HART

Postdoctoral researcher in music and musicology.

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*I conduct my research in the field of **computational musicology**: I am interested in the analysis of **contemporary**, **electroacoustic**, and **recorded** music, **creative coding**, and **digital creation**. Je develop and apply **computational analysis** techniques from several perspectives: **organology**, **performance**, a critical approach to analysis, and the use of the computer as a bespoke tool for analysis. I seek to understand artists' **creative process** through an analysis of their Work in a broad sense, and through ethnomusicological approaches.*

EDUCATION

Diploma	**Institution**	**Year**	**Subject**
Ph.D.	**University of Huddersfield.** As part of the European Research Council (**ERC**)-funded Fluid Corpus Manipulation (**FluCoMa**) project.	2021	Music and musicology.
Masters	**Université Rennes 2** (France). Highest honours.	2017	Music and musicology.
Undergraduate	**Université Rennes 2 (France**. Speciality music and digital technology	2015	Music and musicology.

INSTITUTIONS AND RESEARCH UNITS

University of Huddersfield 2018-present Huddersfield, UK

- *Postdoctoral researcher with the FluCoMa project from March 2022.*
- *PhD student with the FluCoMa project and teacher for the Centre for Research in New Music (CeReNeM) from 2018 to 2021.*

Université Rennes 2 2012-2017 Rennes, France

- *Undergraduate and masters student.*
- *Computer technician from 2015-2016.*

TEACHING

- 2020-2021.
  University of Huddersfield.
  Advanced interactive tool design for music and audio.
  Undergraduate Year 3 (music and musicology). Seminar.
  - *Teaching of practical techniques for digital creation, notably in Max, SuperCollider, and JavaScript.*
  - *Teaching of the history and application of various techniques such as: sound synthesis, FFT, interface design, general programming concepts.*

- 2020-2021.
  University of Huddersfield.
  Critical approaches to recorded and electronic music.
  Undergraduate Year 2 (music and musicology). Lecture.
  - *Teaching of critical approaches to recorded and electronic music from various perspectives: technological, cultural, historical, and musical.*

- 2019-2020.
  University of Huddersfield.
  Techniques of musical analysis.
  Undergraduate Years 2-3 (music and musicology). Seminar + Lecture.
    - *Teaching of the history and application of traditional musicological analysis methods, notably Schenkerian analysis.*
    - *Teaching of general analytical concepts, historical contextualisation, critical approaches to analysis and practical analysis.*

- 2015-2016.
  Université Rennes 2.
  Digital creation computer technician.
  Undergraduate-Masters (music and musicology, art and digital technology). Technician.
    - *Helping musicology and ADT students with digital creation projects.*

ADMINISTRATIVE ACTIVITY

- From March 2022: **postdoctoral researcher** for FluCoMa (University of Huddersfield).
    - Construction of a **web site** for knowledge dissemination (*www.learn.flucoma.org*).
    - **Organisation and logistics** of interviews, podcasts and a series of articles.

- 2019-2020 : member of a **conference organization committee**.
  PGR Conference 2020 (University of Huddersfield) (shorturl.at/nHTV8).
    - ***Multidisciplinary conference*** *for Masters and PhD students.*
    - *Arts and humanities* ***school representative****.*
    - ***Budget distribution.***
    - ***Logistical organisation.***

- 2019-2020 : Co-fonder of the ***Huddersfield Creative Coding Hackspace*** (University of Huddersfield).
    - *Created as a sub-branch of the* Huddersfield Creative Coding Lab.
    - *Creation of a website and pedagogical articles (www.hudhack.space).*
    - *Logistical organisation of weekly sessions.*

RESEARCH ACTIVITY

- Analysis of **electronic, contemporary** and **recorded** musics.
    - *Analysis of contemporary and historical electronic and recorded music.*
    - *Perspective of artistic creation as the configuration of networks of objects and humans.*
    - *Exploration of the relationships between artists and objects.*

- **Computational techniques** of musique analysis.
    - *Conception and development of computational musical analysis techniques.*
    - *Development of interfaces for visualization and interaction.*
    - *Use of machine learning techniques (neural networks, dimensionality reduction, signal decomposition algorithms) for musical analysis.*
    - *Use of databases derived from statistical audio descriptor data for musical analysis.*

- **Organological** and **ethnographical** analysis.
    - *Approach to analysis by organology of physical and digital instruments: faktura (analysis and recreation of code), actor-network theory, conception and analysis of alternative performances, interview, and work with artists.*

- Analysis of **performance** and **creative coding.**
    - *Adoption of the 'musicking' approach: approaching music as verb rather than a noun.*
    - *Seeking techniques and approaches for the analysis of the ephemeral.*
    - *Seeking techniques and approaches for the analysis of creative coding; analysis of computational approaches in art.*

- Knowledge **dissemination.**
    - *Writing of analytical, pedagogical, and archival articles for the FluCoMa* learn *platform (www.learn.flucoma.org/madewithflucoma/).*
    - *Creation of other content for this website, notably pedagogical and analytical software.*
    - *Production and hosting of a podcast with creative coders from across the world (www.learn.flucoma.org/madewithflucoma/).*

- **Conference** organisation.
    - *For the PGR Conference 2020.*
    - *Reading and selection of abstracts and posters.*
    - *Session chair.*
    - *Conception and writing of the call for abstracts.*

- Organisation of creative programming sessions.
    - *For the Huddersfield Creative Coding Hackspace.*
    - *Conception of weekly session for experimental creative programming (Max, SuperCollider, JavaScript, C++) for students of all levels.*
    - *Conception and writing of pedagogical articles for the website (www.hudhack.space).*

PUBLICATIONS, CONFERENCE PRESENTATIONS

- 2021: **Performance cartography, performance cartology : musical networks for computational musicological analysis.**
  PhD thesis.
  University of Huddersfield (UK).
    - *Viva voce (29th November 2021) jury members: Simon Emmerson, Robert Adlington.*

- 2020: **Identifying and analysing the sonorous potentialities of a digital instrument** (*« Identifier et analyser les potentialités sonores d'un instrument numérique* »).
  Article and conference presentation (26th October 2020).
  JIM 2020 (Journées d'Informatique Musicale). Université de Strasbourg (France).

- 2020: **The cartography and cartology of a performance.**
  Conference presentation (10th September 2020).
  RMA 2020 (Royal Musical Association Conference). Goldsmiths, University of London (UK).

- 2020: **Identifying gestural vocabulary in video games through audio corpus manipulation.**
  Conference presentation (29th May 2020).
  MAMI 2020 (Music and Moving Image Conference). New York University (USA).

- 2019: **Fluid corpus manipulation for musicological analysis.**
  Conference presentation (21st November 2019).
  FluCoMa Plenary. University of Huddersfield (UK).

- 2019: **The creative process as instrument making: a case study with four electronic musicians.**
  Conference presentation (10th October 2019).
  TCPM 2019 (Tracking the Creative Process in Music Conference). Nova FCSH, Lisbon (Portugal).

- 2019: **The performance network and how to analyse it: using actor-network theory for analysis of performance.**
  Conference presentation (June 2019).
  MHM PGR Conference. University of Huddersfield (UK).

- 2018: **Understanding the contemporary ear.**
  Conference presentation (September 2018).
  CeReNeM Research Colloquium. University of Huddersfield (UK).

- 2017: **A paradigm of infinity : an analysis through mathematical formalisation of the Work of Nils Frahm** (« *Un paradigme de l'infini : une analyse par formalisation mathématique de l'œuvre de Nils Frahm* »).
  Masters memoire.
  Université Rennes 2 (France).
    - *Viva voce members: Antoine Bonnet, Bruno Bossis.*

- 2017: **The contemporary ear: how to analyse listening practices of our time?** (« *L'oreille contemporaine : comment analyser les pratiques d'écoute de notre époque ?* »).
  Seminar presentation
  Doctoral seminar « *Son et image : approches méthodologiques* ». Université Rennes 2 (France).

OTHER SKILLS

- High level in **programming** in several languages (Max, SuperCollider, Pure Data, JavaScript, C++). High level in **music production software** (DAWs such as Logic, Ableton, FL Studio, Cubase). Understanding of **computation concepts** for general programming: organisation of complex architecture, modular code, bridging different softwares together.

- Notions of **acoustic and electronic instrument making**. Experience in the creation and modification of sonorous objects. Experience with microcontrollers such as Arduinos.

- Skills in field work for **ethnomusicology**. Realisation of **interviews and podcasts**. **Transcription and archiving** of interviews. Event archiving. Video **capture and editing**.

- Capacity to work in a **team**. For my PhD I integrated the FluCoMa team – an **international** and **multidisciplinary** team.

- Fluently speak **English** and **French**.