



# Axel Faes

POSTDOCTORAL RESEARCHER · DATA SCIENTIST · COMPUTATIONAL NEUROSCIENTIST · COMPUTER ENGINEER

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## References

**Liesbet M. Peeters**, liesbet.peeters[at]uhasselt.be

Associate Professor (Postdoc advisor) Biomedical Data Sciences

**Marc Van Hulle**, marc.vanhulle[at]kuleuven.be

Full Professor (PhD advisor) Laboratory for Neuro- and Psychophysiology

## Work & Research Experience

### Postdoctoral Researcher: Artificial Intelligence in Healthcare

- Scientific Coordinator of the Flanders AI Research program, Use Case Real World Evidence.
- Technical Machine Learning lead of the Biomedical Data Sciences Group, UHasselt

UHasselt

January 2024 - Current

### Postdoctoral Researcher: Brain-Computer Interfacing and Machine Learning

- Project: "Sign Language Alphabet decoding from intracranial brain activity"
- Group: Prof. Marc van Hulle, Computational Neuroscience, Laboratory for Neuro-and Psychophysiology, KU Leuven

KU Leuven

May 2023 - January 2024

### Data Science Consultant

- Provided consultancy for physical experiments using Synamps RT and Neuvo EEG Systems.
- Supported the data analysis for hybrid BCI with new analytical EEG modeling techniques & signal detection- and classification algorithms.
- Infer emotion from EEG signals using machine learning techniques.
- Usage of ECoG signals from semi-invasive recording for imagined movement detection and language processing.

Flanders BCI

2022 - 2024

### Research Stay Idrogenet Srl, Gloreha: Robotic Rehabilitation

- Develop custom software for the control of the Gloreha robotic rehabilitation device,
- Specifically the R-TOUCH PRO Sinfonia, a custom-built robotic exoskeleton for hand rehabilitation.

Lumezzane, Italy

Dec. 2022 - Jan. 2023

### PhD Researcher in Computational Neuroscience

- Cognitive and Molecular Neuroscience
- PhD Thesis: Finger Movement Decoding: From Source-Localisation to Tensor Regression Modelling

KU Leuven

Sep. 2018 - May 2023

### Web Performance Research Internship

- I worked on the iMinds PRO-FLOW project @ Expertise centre for Digital Media (EDM)
- focus on the difference between the http versions (http1.1, https, http2).

UHasselt

Jul. 2016 - Sep. 2016

### Summer Research Internship Physical Computing

- Interfacing between human entity, a drone and virtual objects @ Expertise centre for Digital Media (EDM).
- (C++, Optitrack motion capture, custom built drone)

UHasselt

Aug. 2015 - Sep. 2015

## Teaching & Academic Activities

**Bioinformatics (3740) Coordinating lecturer**, UHasselt

Sep. 2025 - Sep. 2026

**BKO (Basic Teaching Qualification) track - Teacher Professionalization**, UHasselt

2025

**Data Science in Healthcare (4747) Lecturer (teaching team member)**, UHasselt

Sep. 2025 - Dec. 2025

**Advanced Topics in Data Science (4569 & 4585) Lecturer Federated Learning (teaching team member)**, UHasselt

June 2024 - Sep. 2025

**Bioinformatics (3740) Coordinating lecturer**, UHasselt

Sep. 2024 - Sep. 2025

**Guest Associate Editor Use of Big Data and Artificial Intelligence in Multiple Sclerosis**, Frontiers in Immunology

2024 - 2025

**VLAIO Evaluator for BAEKELAND SPIN OFF MANDATES**, VLAIO

2025

**Student Research Competition Judge (International Conference on Functional Programming)**, ICFP

2024

**Brain-Computer Interfacing (B-KUL-H08M0A) Guest Lecturer**, KU Leuven

2022-2025

## Educational background

### Flemish Sign Language course

- Graduates are able to engage in day-to-day conversations with deaf and hard-of-hearing individuals.

Flemish Sign Language Centre

Sep. 2022 - May 2024

### Doctoral Programme in Biomedical Science (PhD) in Computational Neuroscience

- Cognitive and Molecular Neuroscience
- PhD Thesis: Finger Movement Decoding: From Source-Localisation to Tensor Regression Modelling

KU Leuven

Sep. 2018 - May 2023

### Advanced Master of Science in Engineering (M.Sc.) in Artificial Intelligence

- Engineering and Computer Science (76% - Cum Laude)
- Thesis: An Information Theoretical Approach to EEG Source-Reconstructed Connectivity (on Github)

KU Leuven

Sep. 2017 - Jul. 2019

### Honours programme of the Faculty of Engineering Science (Research Track)

- Research Assistant: design of type-&-effect system for Eff based on row polymorphism
- Research Assistant: efficient compilation of algebraic effect handlers (in Eff)

KU Leuven

Sep. 2016 - Oct. 2018

### Master of Science in Engineering (M.Sc.) in Computer Science (Burgerlijk Ingenieur - ir.)

- Artificial Intelligence & Theoretical Computer Science (76% - Cum Laude)
- Thesis: Algebraic Subtyping for Algebraic Effects and Handlers (on Github)

KU Leuven

Sep. 2016 - Sep. 2018

### Business Summer School: United in Manchester (0739)

- International Business

The University of Manchester

Jul. 2015 - Aug. 2015

## Bachelor of Science (B.Sc.) in Computer Science

- Physics and General courses (79% - Magna Cum Laude)
- Thesis: Machine learning techniques for flow-based network intrusion detection systems (on Github)

UHasselt  
Sep. 2013 - Jul. 2016

## Grants & (open-source) Projects

### Federated Learning for Population Health Management

- FWO Senior Research Project (2025)
- Project: "Federated Learning for Population Health Management"
- Funding: Research Foundation Flanders (FWO), Belgium (applied, result expected in September 2025)
- Amount: approx. €1,150,000 (including salaries and operational costs for 4 years)

Co-supervisor  
2025 - Current

### Use Case Real World Evidence - Flanders AI Research Program

- Funding: Flemish government (FAIR program)
- Duration: 2024-2028
- Role: Scientific coordinator (UHasselt) and AI content lead
- Team: approx. 10 researchers across 4 institutions

Scientific Coordinator  
2024 - Current

### ELIXIR Belgium - Roadmap 2023-2025

- Funding: FWO (approx. €11M in total, with contributions from BELSPO and FNRS)
- Duration: 2023-2025
- Role: Consortium partner (UHasselt), focusing on health data re-use and federated analyses
- Collaborations: KU Leuven (Yves Moreau), University of Antwerp (Geert Vandeweyer), VIB (Frederik Coppens)
- Context: ELIXIR Belgium is part of ELIXIR Europe, an ESFRI initiative funded by the European Commission and national agencies

Consortium Partner  
2023 - 2025

### Federated Learning Kit (FLkit)

- FLkit is designed to help life scientists apply federated learning in their research. It offers guidance, techniques, and tools for working with decentralized and sensitive data, enabling privacy-preserving collaboration and deeper insights without sharing raw data.
- The project is in its early stages and open to contributors. The long-term goal is to make FLkit community-driven, sustained, and governed by researchers and practitioners who want to advance federated learning for life sciences.

Community Project Lead  
2025 - Current

### Cardinal: Educational and Research platform for MSc theses in PL/compilers

- Cardinal is a C++20 reimplementation of the Wren VM, designed for clarity, research, and education. It provides a small, well-documented virtual machine and runtime for exploring compilers, concurrency (fibers), and language embedding.
- The project serves as a platform for student theses and for prototyping new programming language ideas.

Lead Developer  
Jan. 2015 - Current

### Open Source Python Package - Block-Term Tensor Regression (BTTR)

- The open-source BTTR implementation provides researchers and practitioners with accessible, reproducible tools for tensor-based regression in neuroscience and related domains. It is actively developed and documented to support experimentation, education, and further research.

Lead Researcher & Developer  
2022 - Current

### Wisconsin Breast Cancer Dataset Research Tutorial for Federated Learning

- This repository serves as a step-by-step tutorial for running federated learning studies with the FL4E framework. Using the Wisconsin Breast Cancer dataset as an example, it guides researchers and students through the full workflow.
- Clear documentation and markdown guides explain each step, making it easier for newcomers to understand and apply federated learning in practice.

Research Tutorial Author  
2025 - Current

### ICAL parser for KU Leuven schedules

- An nodejs application to create an iCalendar file for courses at KU Leuven. (>1000 active users)

Lead Developer  
Aug. 2016 - Current

### Household Survival: Immersive Room-Sized Gaming Using Everyday Objects as Weapons (Unity, Optitrack Motion Capture)

- Developed a room-scale AR game using everyday objects as controllers (broom, fan, vacuum, mousetrap).
- Demonstrated immersive physical-virtual interactions.
- Still used in university courses as a teaching example.

Researcher  
Sep. 2015 - Dec. 2015

## Honors & Awards

- Jan. 2018 **FWO Fundamental Research Grant**, FWO
- Mar. 2018 **Finalist**, Cyber Security Challenge 2018
- Sep. 2017 **3rd place**, ICFP 2017 Student Research Competition
- Jul. 2016 **Bachelor Award**, in Computer Science
- May. 2016 **3rd place**, ACM CHI 2016 Student Design Competition
- Feb. 2016 **2nd place**, BeGDC (Belgian Game Development Championship)
- Jan. 2016 **IELTS**, Academic Module (8.0/9.0)

Belgium  
Brussels, Belgium  
Oxford, UK  
UHasselt, Belgium  
San Jose, CA, USA  
Brussels, Belgium  
Brussels, Belgium

## Professional Development Activities

**Mathematics & Natural Sciences Tutor, Freelance**, Supporting high school and university students in mastering mathematics (and other natural sciences) through personalized tutoring

Sept. 2015 - 2024

**Coach, DjangoGirls**, Inspire women to fall in love with programming (Python, Django workshops)

Mar. 2018 - 2024

**Coach, CoderDojo (UHasselt, PXL)**, Teach children programming (Scratch, Python, Minecraft and Lego mindstorm).

Sep. 2014 - 2025

**Student Representative, KU Leuven**, POC (Education Committee) of Master Computer Science Engineering, POC (Education Committee) of Advanced Master Artificial Intelligence, Member of Departmental council of Computer Science, Department board of Computer Science and Faculty council of Engineering Science

Sep. 2017 - Sep. 2018

**Student Council Member, StuRa UHasselt**, Member of Board of Education, Faculty Council. Board of Student Facilities, Diversity Commission, Temporary representative in VVS (Flemish Union of Students)

Mar. 2015 - Aug. 2016

**Student Representative, UHasselt**, Representing students interests in a Computer Science education context. Representing Computer Science education for high school students

Sep. 2013 - Jul. 2016

## PAPERS IN REVIEW

- [1] **Axel Faes**, “[Algebraic Subtyping for algebraic effects and handlers](#)”, International Conference on Functional Programming (ICFP) 2025.
- [2] **Axel Faes**, Ashkan Pirmani, Yves Moreau, Liesbet Peeters, “[Federated Block-Term Tensor Regression in Realistic Healthcare Settings](#)”, IEEE FLICS 2025 - Symposium on Federated Learning and Intelligent Computing Systems.
- [3] **Axel Faes**, Liesbet Peeters, “[Block-Term Tensor Decomposition for Signal Reconstruction](#)”, IEEE FLICS 2025 - Symposium on Federated Learning and Intelligent Computing Systems.
- [4] **Axel Faes**, Liesbet Peeters, Marc Van Hulle, “[Federated Transfer Learning for intracranial motor brain-computer interfaces](#)”, IEEE FLICS 2025 - Symposium on Federated Learning and Intelligent Computing Systems.
- [5] **Axel Faes**, Liesbet Peeters, “[Vertical Federated Learning with Block-Term Tensor Regression](#)”, Machine Learning: Science and Technology (6.8 IF).
- [6] Valentina Pergher\*, **Axel Faes\***, Yide Li, Marc M. Van Hulle (\* co-first author), “[How stimulus type and task structure can affect ERP signatures](#)”, Frontiers in Psychology, section Cognition (2.6 IF).
- [7] Anh Phuong Do, **Axel Faes**, et al., “[Individual Reference Intervals for Clinical Event Prediction](#)”, IEEE Journal of Biomedical and Health Informatics (6.7 IF).
- [8] Dongho Chun, **Axel Faes**, “[Effects on clustering algorithms based on classification of Atrial Fibrillation based on ECG data](#)”, IEEE Journal of Biomedical and Health Informatics (6.7 IF).
- [9] Ward Ceyskens, **Axel Faes**, “[Cross Subject training for finger movement decoding with high-density ECoG](#)”, IEEE Transactions on Biomedical Engineering (4.6 IF).
- [10] Dries Cornelissen, **Axel Faes**, “[Block-Term Decomposition for arrhythmia detection and prediction on sinus rhythms](#)”, IEEE Transactions on Biomedical Engineering (4.6 IF).
- [11] Meseret Assefa Kerga, **Axel Faes**, “[Predicting Cirrhosis Patient Survival Using Machine Learning: A Data-Driven Approach](#)”, IEEE Journal of Biomedical and Health Informatics (6.7 IF).

## INTERNATIONAL JOURNAL PAPERS

- [12] Liesbet Peeters, **Axel Faes**, et al., “[Editorial introduction 'The use of big data and AI in MS'](#)”, Frontiers in Immunology (5.7 IF).
- Ashkan Pirmani, Edward De Brouwer, Adam Arany, Martijn Oldenhof, Antoine Passemiers, **Axel Faes**, Tomas Kalincik, Serkan Ozakbas, Riadh Gouider, Barbara Willekens, Dana Horakova, Eva Kubala Havrdova, Francesco Patti, Alexandre Prat, Alessandra Lugaresi, Valentina Tomassini, Pierre Grammond, Elisabetta Cartechini, Izanne Roos, Cavit Boz, Raed Alroughani, Maria Pia Amato, Katherine Buzzard, Jeannette Lechner-Scott, Joana Guimaraes, Claudio Solaro, Oliver Gerlach, Aysun Soysal, Jens Kuhle, Jose Luis Sanchez-Menoyo, Daniele Spitaleri, Tunde Csepany, Bart Van Wijmeersch, Radek Ampapa, Julie Prevost, Samia J. Khoury, Vincent van Pesch, Nevin John,
- [13] Davide Maimone, Bianca Weinstock-Guttman, Guy Laureys, Pamela McCombe, Yolanda Blanco, Ayse Altintas, Abdullah Al-Asmi, Justin Garber, Anneke van der Walt, Helmut Butzkueven, Koen de Gans, Csilla Rozsa, Bruce Taylor, Talal Al-Harbi, Attila Sas, Cecilia Rajda, Orla Gray, Danny Decoo, William M Carroll, Allan G Kermode, Marzena Fabis-Pedrini, Deborah Mason, Angel Perez Sempere, Mihaela Simu, Neil Shuey, Bhim Singhal, Marija Cauchi, Todd A. Hardy, Sudarshini Ramanathan, Patrice Lalive, Carmen-Adella Sirbu, Stella Hughes, Tamara Castillo Trivino, Liesbet M. Peeters, and Yves Moreau, “[Personalized Federated Learning for Predicting Disability Progression in Multiple Sclerosis Using Real-World Routine Clinical Data](#)”, npj Digital Medicine (15.357 IF).
- [14] **Axel Faes**, Eva Calvo Merino, Anais Van Hoylandt, Elina Keirse, Tom Theys, Marc M. Van Hulle, “[Finger abduction trajectory prediction from high-density ECoG](#)”, Journal of Neural Engineering (5.4 IF).
- [15] **Axel Faes**, Mariana P. Branco, Anais Van Hoylandt, Elina Keirse, Tom Theys, Nick F. Ramsey, Marc M. Van Hulle, “[Decoding Sign Language Finger Movements from high-density ECoG using Graph-Optimized Block Term Tensor Regression](#)”, Journal of Neural Engineering (5.4 IF).
- [16] Eva Calvo Merino, **Axel Faes**, Marc M. Van Hulle, “[The role of distinct ECoG frequency features in decoding finger movement](#)”, Journal of Neural Engineering (5.4 IF).
- [17] **Axel Faes**, Marc M. Van Hulle, “[Finger movement and coactivation predicted from intracranial brain activity using extended Block-Term Tensor Regression](#)”, Journal of Neural Engineering (5.4 IF).
- [18] **Axel Faes**, Flavio Camarrone, Marc M. Van Hulle, “[Single finger trajectory prediction from intracranial brain activity using Block-Term Tensor Regression with fast and automatic component extraction](#)”, IEEE Transactions on Neural Networks and Learning Systems (14.25 IF).
- [19] **Axel Faes**, Aurelie de Borman, Marc M. Van Hulle, “[Source space reduction for eLORETA](#)”, Journal of Neural Engineering (5.4 IF).
- [20] **Axel Faes**, Iris Vantieghem, Marc M. Van Hulle, “[Neural Networks for Directed Connectivity Estimation in Source-Reconstructed EEG Data](#)”, Applied Sciences (2.9 IF).

## CONFERENCE PAPERS

- [21] **Axel Faes**, Ashkan Pirmani, Yves Moreau, Liesbet Peeters, “[Applying Federated Learning to Block-Term Tensor Regression for Decentralised Data Analysis of Biomedical Data](#)”, IEEE Conference on Federated Learning Technologies and Applications (IEEE FLTA 2025).
- [22] Qiang Sun, Eva Calvo Merino, Liuyin Yang, **Axel Faes**, Marc Van Hulle, “[Proprioceptive Feedback Challenges Motor Intention Detection from EEG during Human-Exoskeleton Interaction](#)”, Proceedings of 2025 International Conference on Rehabilitation Robotics (ICORR) 2025.
- [23] Robin Marx, Maarten Wijnants, Peter Quax, **Axel Faes**, Wim Lamotte, “[Web Performance Characteristics of HTTP/2 and comparison to HTTP/1.1](#)”, International Conference on Web Information Systems and Technologies, pg 87-114.
- [24] Robin Marx, Peter Quax, **Axel Faes**, Wim Lamotte, “[Concatenation, embedding and sharding: Do HTTP/1 performance best practices make sense in HTTP/2?](#)”, WEBIST 2017 - Proceedings of the 13th International Conference on Web Information Systems and Technologies.

## THESIS

- [25] **Axel Faes**, “[Finger Movement Decoding: From Source-Localisation to Tensor Regression Modelling](#)”, PhD Thesis.
- [26] **Axel Faes**, “[An Information Theoretical Approach to EEG Source-Reconstructed Connectivity](#)”, Advanced Master's Thesis.
- [27] **Axel Faes**, “[Algebraic Subtyping for Algebraic Effects and Handlers](#)”, Master's Thesis.
- [28] **Axel Faes**, “[Machine learning techniques for flow-based network intrusion detection systems](#)”, Bachelor's thesis.

## EXTENDED ABSTRACTS

- [29] Eva Calvo Merino, **Axel Faes**, Marc M. Van Hulle, “[High-gamma band event detection improves stability of finger trajectories decoded from ECoG-LMP activity](#)”, International BCI Meeting 2024.
- [30] Qiang Sun, **Axel Faes**, Marc M. Van Hulle, “[Individual and Coordinated Finger Movements Decoding from High-Density EEG and Its Implication in Hand Exoskeleton Control](#)”, European Congress of NeuroRehabilitation 2023.
- [31] Eva Calvo Merino, **Axel Faes**, Marc M. Van Hulle, “[Modulation of LMPs using the gamma band increases the stability of finger trajectories decoded from ECoG](#)”, BCI (Brain-computer interfaces) - Society 2023.

- [32] **Axel Faes**, Benjamin Wittevrongel, Marc M. Van Hulle, “[Reconstructing single finger trajectories from intracranial brain activity](#)”, III International Conference “Volga Neuroscience Meeting 2021”.
- [33] **Axel Faes**, Mansoureh Fahimi Hnazaee, Marc M. Van Hulle, “[Causal Graphical Modelling of Functional Connectivity from Reconstructed EEG Sources](#)”, 8th International BCI Meeting (2021).
- [34] **Axel Faes**, Tom Schrijvers, “[Towards a Core Language with Row-Based Effects for Optimised Compilation](#)”, International Conference on Functional Programming 2017 Student Research Competition.
- [35] Kashyap Todi, Donald Degraen, Brent Berghmans, **Axel Faes**, Matthijs Kaminski, Kris Luyten, “[Purpose-centric appropriation of everyday objects as game controllers.](#)”, CHI EA '16: Extended Abstracts of the SIGCHI Conference on Human Factors in Computing Systems. Student Game Competition, pp. 2744-2750.
- [36] Brent Berghmans\*, **Axel Faes\***, Matthijs Kaminski\*, Kashyap Todi (\* co-first author), “[Household Survival: Immersive Room-Sized Gaming Using Everyday Objects as Weapons](#)”, CHI EA '16: Extended Abstracts of the SIGCHI Conference on Human Factors in Computing Systems. Student Game Competition, pp. 168-171.

## POSTERS

- [37] **Axel Faes**, Tom Schrijvers, “[Towards a Core Language with Row-Based Effects for Optimised Compilation](#)”, International Conference on Functional Programming 2017 Student Research Competition.

## OTHER PUBLICATION

- [38] Matija Pretnar, Amr Hany Shehata Saleh, **Axel Faes**, Tom Schrijvers, “[Efficient compilation of algebraic effects and handlers](#)”, 2017 - CW Reports, CW708, 32 pp. Leuven, Belgium: Department of Computer Science, KU Leuven..

# Supervised students, talks and other media

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## STUDENTS

- [1] **Brecht Heeren**, “[Federated Machine Learning for Health Data](#)”, Master of Science in Computer Science (2025-2026).
- [2] **Denzell Mgbokwere**, “[Optimization and Type Checking in Single-Pass Compilers - a Case Study with the Wren Programming Language](#)”, Master of Science in Computer Science (2025-2026).
- [3] **Robert Rysskin**, “[Redesign of Wren Bytecode - Towards More Efficient Execution and Memory Usage](#)”, Master of Science in Computer Science (2025-2026).
- [4] **Anh Phuong DO**, “[Individual Reference Intervals for Clinical Event Prediction](#)”, Doctoral Program in Sciences, Statistics (co-supervisor, 2024 - 2025).
- [5] **Matteo Ramina**, “[Estimating Household Wealth in Guyana - Remote Sensing and Convolutional Neural Network Approach](#)”, Master Statistics & Data Science (2024-2025).
- [6] **Mohsen Soleimanisemani**, “[AI for time series imputation](#)”, Master Statistics & Data Science (2024-2025).
- [7] **Meseret Assefa Kerga**, “[Predicting Cirrhosis Patient Survival Using Machine Learning - A Data-Driven Approach](#)”, Master Statistics & Data Science (2024-2025).
- [8] **Dongho Chun**, “[Clustering with Cardiovascular Health Data](#)”, Master of Science in Computer Science (2024-2025).
- [9] **Dries Cornelissen**, “[BTTR for arrhythmia detection/prediction on sinus rhythms](#)”, Master of Science in Computer Science (2024-2025).
- [10] **Ward Ceyssens**, “[Cross Subject training for finger movement decoding with high-density ECoG](#)”, Master of Science in Computer Science (2024-2025).
- [11] **Qiang Sun**, “[Hand exoskeleton dexterity achieved by shared control with a semi-invasive brain-computer interface](#)”, Doctoral Program in Biomedical Sciences (daily supervision 2022-2023).
- [12] **Eva Calvo Merino**, “[Restoring finger dexterity with an exoskeleton controlled by human intracranial recordings](#)”, Doctoral Program in Biomedical Sciences (daily supervision 2022-2023).
- [13] **Aurélien de Borman**, “[Investigating the effect of Source Mixing on Directed Connectivity estimated between Simulated Reconstructed EEG Sources](#)”, Internship Student 2021.
- [14] **Diogo Sousa Morais**, “[Estimating the effectiveness of source localized EEG for BCIs](#)”, Internship Student 2021.
- [15] **Guilherme de Borras Silva**, “[Cluster Permutation Analysis of N-Back related EEG-ERP Data](#)”, Internship Student 2021.
- [16] **Iris Vantieghe**, “[Using Neural Networks to derive Directed Connectivity between Reconstructed EEG Sources](#)”, Master of Science in Artificial Intelligence (2020-2021).
- [17] **Didier Quintius**, “[Neural Network Approach to the Inverse Problem](#)”, Master of Science in Artificial Intelligence (2020-2021).

## TALKS, PRESENTATIONS AND OTHER MEDIA

- [1] **OHDSI Europe Symposium 2025**, “[OHDSI Europe Symposium](#)”, 2025.
- [2] **Guest Lecture** “[Federated Finger movement decoding - brain-computer interfacing](#)”, “[KULeuven](#)”, 2025.
- [3] **Use Case - Real-World Evidence**, “[Flanders Artificial Intelligence Research Program \(FAIR\) Research Day](#)”, 2024.
- [4] **FAIR Use Case Real World Evidence Kick-off Event**, “[Flanders Artificial Intelligence Research Program \(FAIR\)](#)”, 2024.
- [5] **Decoding finger movements from invasive recordings in human motor cortex**, “[Mindseed event Leuven, NeuroTech Leuven](#)”, 2023.
- [6] **Guest Lecture** “[Finger movement decoding - brain-computer interfacing](#)”, “[KULeuven](#)”, 2023.
- [7] **Coordinated Finger Movements Predicted from Intracranial Brain Activity**, “[International Congress Humanities vs Sciences & the Knowledge Accelerating in Modern World: Parallels an Interaction](#)”, 2022.
- [8] **BCI demo - Advanced Engineering, Antwerp Expo**, “[AI Flanders, Flanders Industry 4.0](#)”, 2022.
- [9] **Guest Lecture** “[Decoding single and coordinated finger actions from intracranial brain activity](#)”, “[KULeuven](#)”, 2022.
- [10] **Finger abduction trajectory prediction from high-density ECoG**, “[Leuven AI Scientific Workshop](#)”, 2022.
- [11] **Decoding single and coordinated finger actions from intracranial brain activity.**, “[XIV World Scientific Congress - SCIENCE FOR PEACE Modern Science, Global and Regional Theory and Practice](#)”, 2021.
- [12] **Guest Lecture** “[Finger Movement Decoding - From Source-Localisation to Tensor Regression Modelling](#)”, “[KULeuven](#)”, 2021.
- [13] **Reconstructing single finger trajectories from intracranial brain activity**, “[III International Conference “Volga Neuroscience Meeting 2021”](#)”, 2021.
- [14] **BCI demo - Day of Science**, “[Technopolis \(canceled due to the COVID-19 situation\)](#)”, 2021.
- [15] **Presentation** “[‘MINDSPELLER’ Medical Research Project on Brain Computer Interfaces](#)” and concert (with Tigran Maytesian and his Mind Speller Chamber Orchestra), “[Cathedral of St. Michael and St. Gudula, Brussels](#)”, 2019.
- [16] **Honours student Axel Faes wins bronze medal in ACM SIGPLAN**, “[KU Leuven, Department of Computer Science](#)”, 2017.
- [17] **Student Axel Faes wins bronze medal in the ACM SIGPLAN Student Research Competition in ICFP conference**, “[KU Leuven, Department of Computer Science, DTAI](#)”, 2017.
- [18] **Purpose-Centric Appropriation of Everyday Objects as Game Controllers**, “[ACM SIGCHI](#)”, 2016.