Functional data analysis and applications in digital and augmented humanities
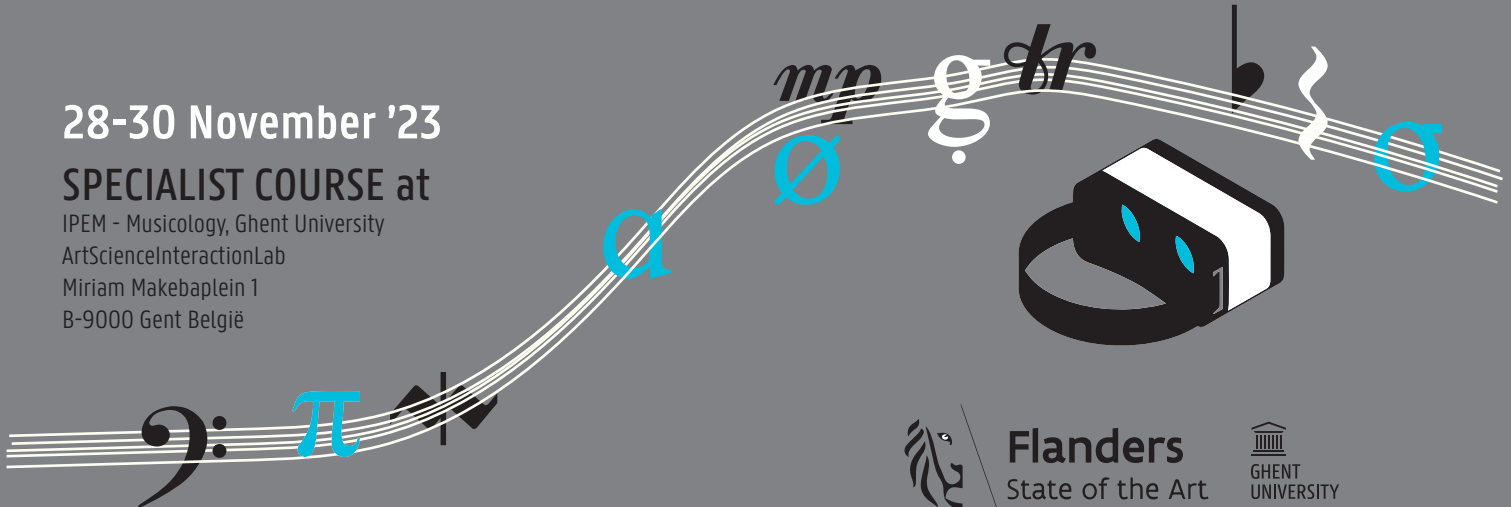
28-30 November '23

SPECIALIST COURSE at
IPEM - Musicology, Ghent University
ArtScienceInteractionLab
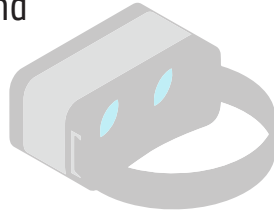Miriam Makebaplein 1
B-9000 Gent België

Flanders
State of the Art

GHENT UNIVERSITY

Functional data analysis and applications in digital and augmented humanities

Conference talks

Ana Mª Aguilera (Universidad de Granada)
"An introduction to functional data analysis"

Jan Beran (Universität Konstanz)
"On Fourier based functional data analysis, with applications"

Alessia Caponera (Università di Milano-Bicocca)
"Sparse functional data: mean and covariance estimation with an application to climate data"

Ingrid Dauchebies (Duke University | Vrije Universiteit Brussel)
"Surfing with wavelets"

Marc Leman (Universiteit Gent)
"New challenges in augmented humanities: complex data and challenging analyses"

Alessandra Menafoglio (Politecnico di Milano)
"The Bayes space approach to functional data analysis for probability density functions"

Aleksandra Michałko (Universiteit Gent)
"Before analysis starts: data collection process and its challenges"

Marc Vidal (Universiteit Gent | Universidad de Granada | Max-Planck-Institut)
"The near-perfect classification phenomenon: an overview of functional classification techniques applied to data coming from digital humanities"

Specialist course*

This course aims at introducing students to the analysis of data in the form of curves. The course will last 3 days, comprising lectures connected to practical hands-on sessions, and (the last day) more advanced talks by experts. After having had an introduction to theory and tools, students will collect curve data in the ASIL lab (De Krook) and learn how to analyze them. Emphasis is on functional data analysis methods.

Course contents
• Data gathering
• Computational tools
• Probability principles
• Curve approximation
• Functional principal components analysis
• Inference with functional data
• Advanced techniques

*Registration is free for prospective students, and conference talks are open to the general public.

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