# 27/10/2023

# Main query

("movie" OR "film watching" OR "film viewing" OR "motion pictures" OR "motion picture" OR "watching a film" OR "viewing a film" OR "film clip" OR "film clips")

AND ("brain imaging" OR "brain activity" OR "neuronal activity" OR "neural activity" OR "envelope")

AND (“MEG” OR "magnetoencephalography" OR "magnetoencephalogram" OR “EEG” OR "electroencephalography" OR "electroencephalogram" OR “fMRI” OR "functional magnetic resonance imaging" OR "functional MRI" OR “MRI” OR "magnetic resonance imaging")

## Movie-related keywords

Movie and motion pictures are often cited by papers. The term “film” was posing numerous problems by referring for example to some new EEG gel. We included exact-phrase searches that contextualize the word “film” in a way relevant for us.

## Activity/imaging related keywords

These terms ensure papers refer to studies with explicit recordings as much as possible. Without them, a lot of results simply stated recording techniques as previous references of the literature in the abstract. “imaging” relates to MRI/fMRI studies while “…-activity” and “envelope” or used terms for EEG/MEG.

## Recording techniques keywords

States the principal recording techniques of interest. The collaterals (i.e. “electroencephalography” for “EEG”) ensure we take into account papers that site either acronym or full name for recording techniques.

## Databases

We ran searches in PubMed and Web of Science databases. The logic operators were used such as stated in the above query.

* PubMed (<https://pubmed.ncbi.nlm.nih.gov/advanced/>): All searches were done with the [Title/Abstract] category placed on each term of the search.
* Web Of Science (<https://www.webofscience.com/wos/alldb/advanced-search>): Searches were made in all editions of all databases available. This includes (at the date of the query search) Web of Science Core Collection, BIOSIS Citation Index, Current Contents Connect, Data Citation Index, Derwent Innovations Index, KCI-Korean Journal Database, MEDLINE ®, SciELO Citation Index and Zoological Record. All words and phrases were searched exactly (i.e. placed in quotation marks).

# Data Treatment

## Removed before screening

**Web of Science**: items with a Document Type that didn’t include the words “article” of “review” were excluded before screening. They were either:

* Procedings paper
* Data sets
* Meeting abstracts
* Meeting
* Data study
* Preprint
* Else (stated as NaN)

**Kept: 269**

**Excluded: 50**

**PubMed**: No records were excluded since

Records removed *before screening*:

Duplicate records removed (n = 171)

Records marked as ineligible by automation tools (n = 0)

Records removed for other reasons (n = 50)

Records identified from\*:

Databases (n = 2)

Registers (n = 0)

**Identification**

Records screened

(n = 270)

Records excluded\*\*

(n = )

Reports sought for retrieval

(n = )

Reports not retrieved

(n = )

**Screening**

Reports assessed for eligibility

(n = )

Reports excluded:

Reason 1 (n = )

Reason 2 (n = )

Reason 3 (n = )

etc.

Studies included in review

(n = )

Reports of included studies

(n = )

**Included**

* Human Connectome Project: A dataset underlying functional connectivity patterns across the brain. A whole portion of it is from Movie-watching.

## Focus

## About technical details

### New Emotional Rating

Studying the effect of emotional categories.

### New type of movie stimuli

Studying new engineered movie-type stimuli.

### Recording Technique

Investigating new recording techniques

### Impact of self-reports

Studying the consequences of varying self-report techniques on neural correlates

## Arousal Impact

Study of brain response differences to arousal

## Disorder Chaaracterization w/ ISC

Disorder related characterization with Inter-subject correlation. Looking at brain regions involved principally.

## Emotional Topology

Neural correlates of emotion-related responses or empathy.

## Event Boundaries

Looking for neural signatures of event boundaries linked to film-related components and decorrelation from mental state event boundaries that are unrelated.

### Anticipation of Event Boundaries

Looking for anticipation of time-locked neural activity pattern changes to events in the movies. (Close to Neurocinematics but centered on anticipation)

## Functional Connectivity

Looking at connectivity patterns and/or building maps

## Impact of attention

Studying the impact of attentional states on neural correlates, differs from arousal in the idea that this looks specifically for the effect of distractors.

## Impact of stress on executive function

Studies using film paradigm to study stress impact or PTSD.

## Inertia

Impact of recent emotional context to emotional susceptibility at neural level.

## Link between neural correlates and bodily signals

Studying specifically the interplay between neural correlates and bodily signals such as cardiac rhythm.

### Disease-related

## Marketing Prediction w/ neural correlates

Linking brain activity during viewing to consuming choices and preferences.

## Neural Correlates of Shared Conscious Experience

Trying to define neural activity patterns of similar conscious experiences between subjects.

### Decoding emotional dimensions

Using techniques (generally ML) to decode affective states (typically such as arousal/valence) from neural patterns.

### Predicting Neural corr w/ Encoding models

Building models to predict typical neural patterns to certain stimuli.

### HD space of representation

Use of HD space to encode pattern responses as dimensions of that space.

## Neurocinematics

Trying to link movies theory to brain activity patterns.

## Pattern classification given behavioural categories

Discrepancies linked to gender, age, abstract categories, etc…

## Plurimodality

Study of interplay between different modalities (visual, auditory, etc..)

## Relevant Reviews

Relevant literature reviews