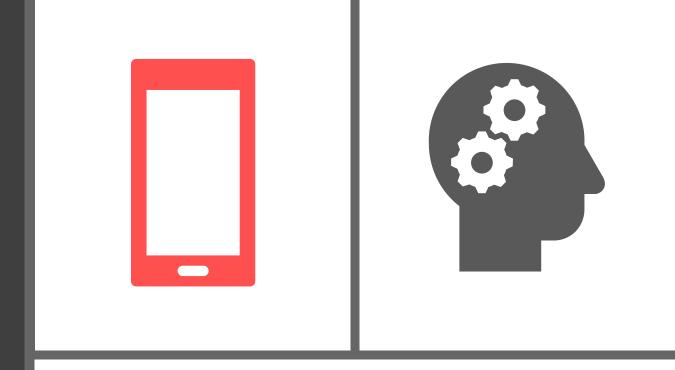
# Artifact handling for mobile EEG

Sarah Blum Neuropsychology Lab Oldenburg, Germany













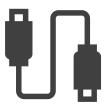






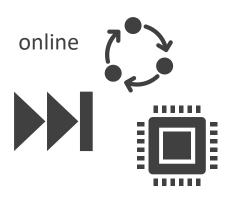


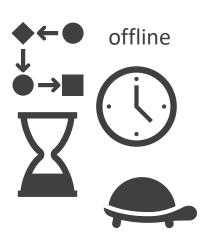


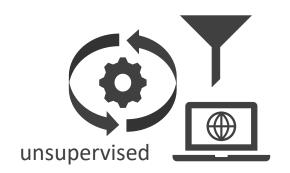




technical



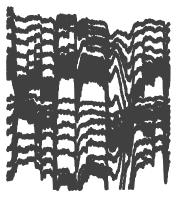


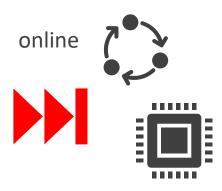


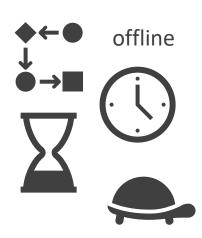










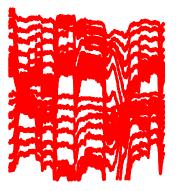








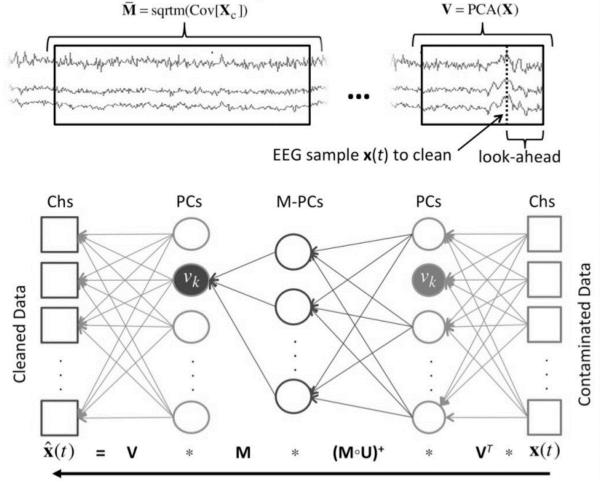




# Artifact Subspace Reconstruction

Reference window X<sub>c</sub>

Current window X



adapted from Mullen et al., 2015

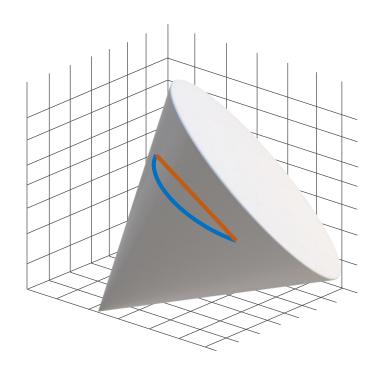
#### statistical model calibration data compute sample covariance matrix compute mixing matrix decompose mixing matrix compute statistical properties in component space save these in threshold matrix

1 min

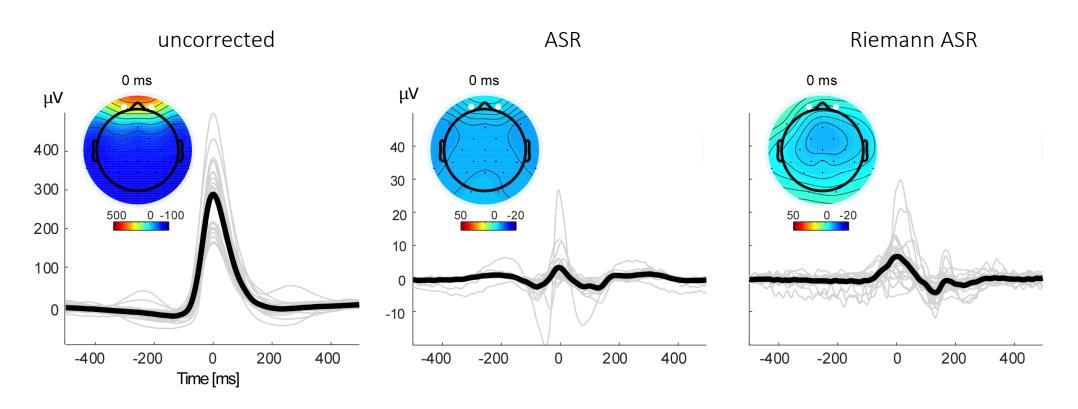
### uncorrected data corrected data compute sample covariance matrix decompose sample covariance matrix choose clean components using threshold matrix reconstruct data segment

statistical model

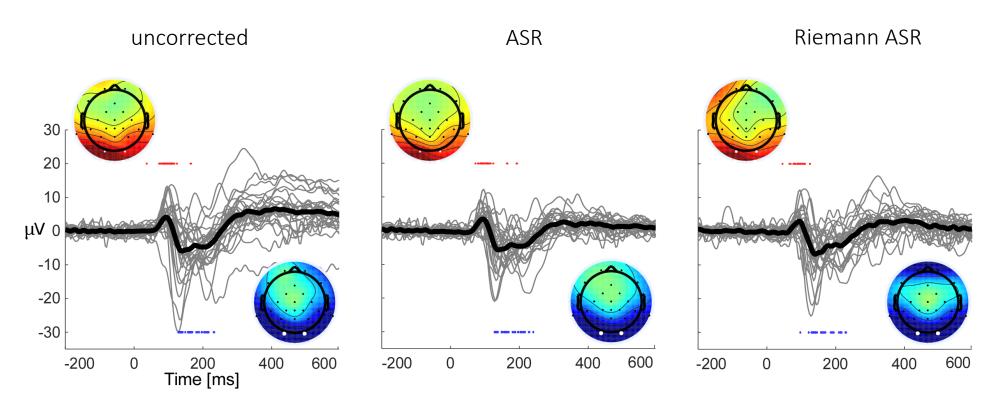
## Riemannian Geometry



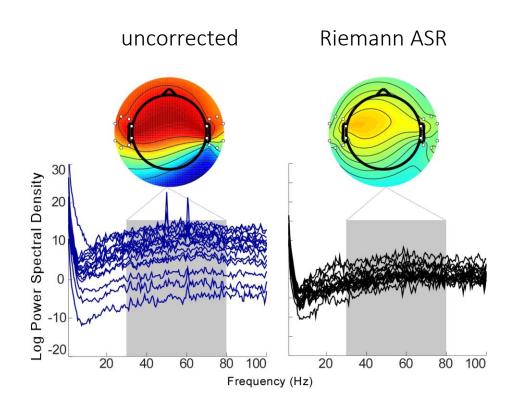
e.g. Barachant et al., 2012, Yger et al., 2015, Congedo et al. 2017, Kalunga et al., 2015, Barthélemy et al., 2019

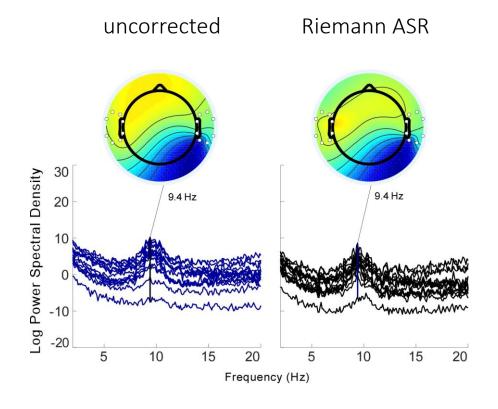


Blum et al., 2019



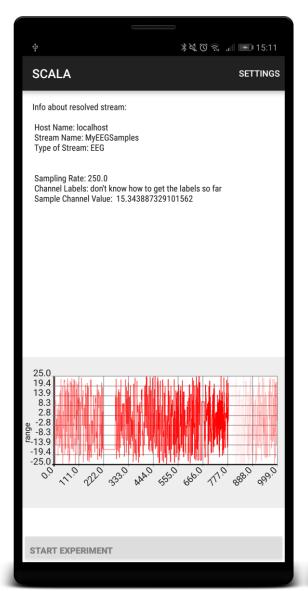
Blum et al., 2019

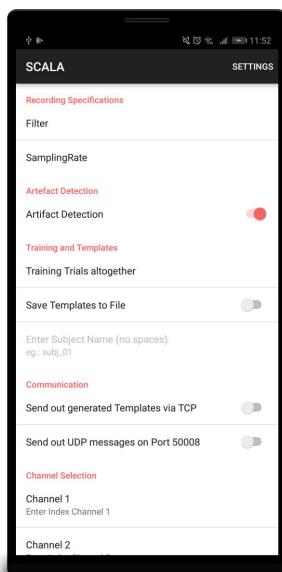




Blum et al., 2019a







Blum et al., 2017

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## connect & download

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github.com/s4rify

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#### References & Sources

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