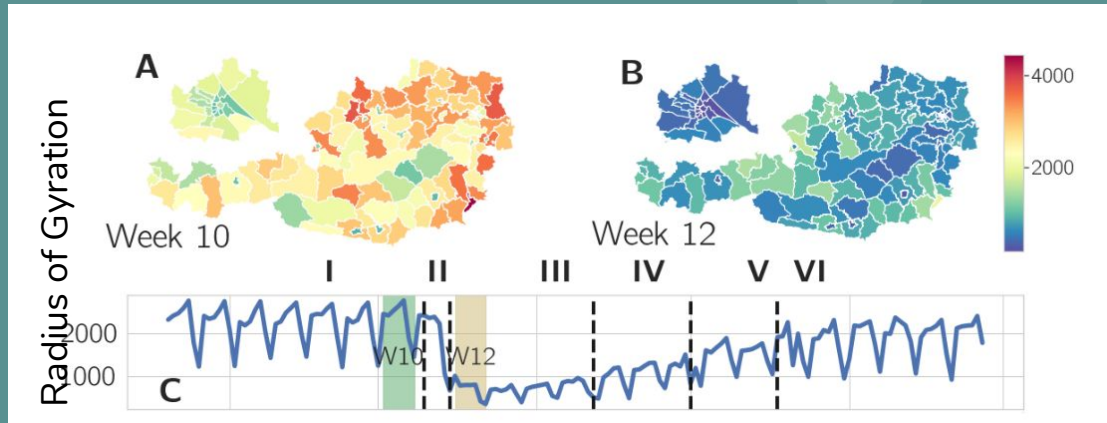
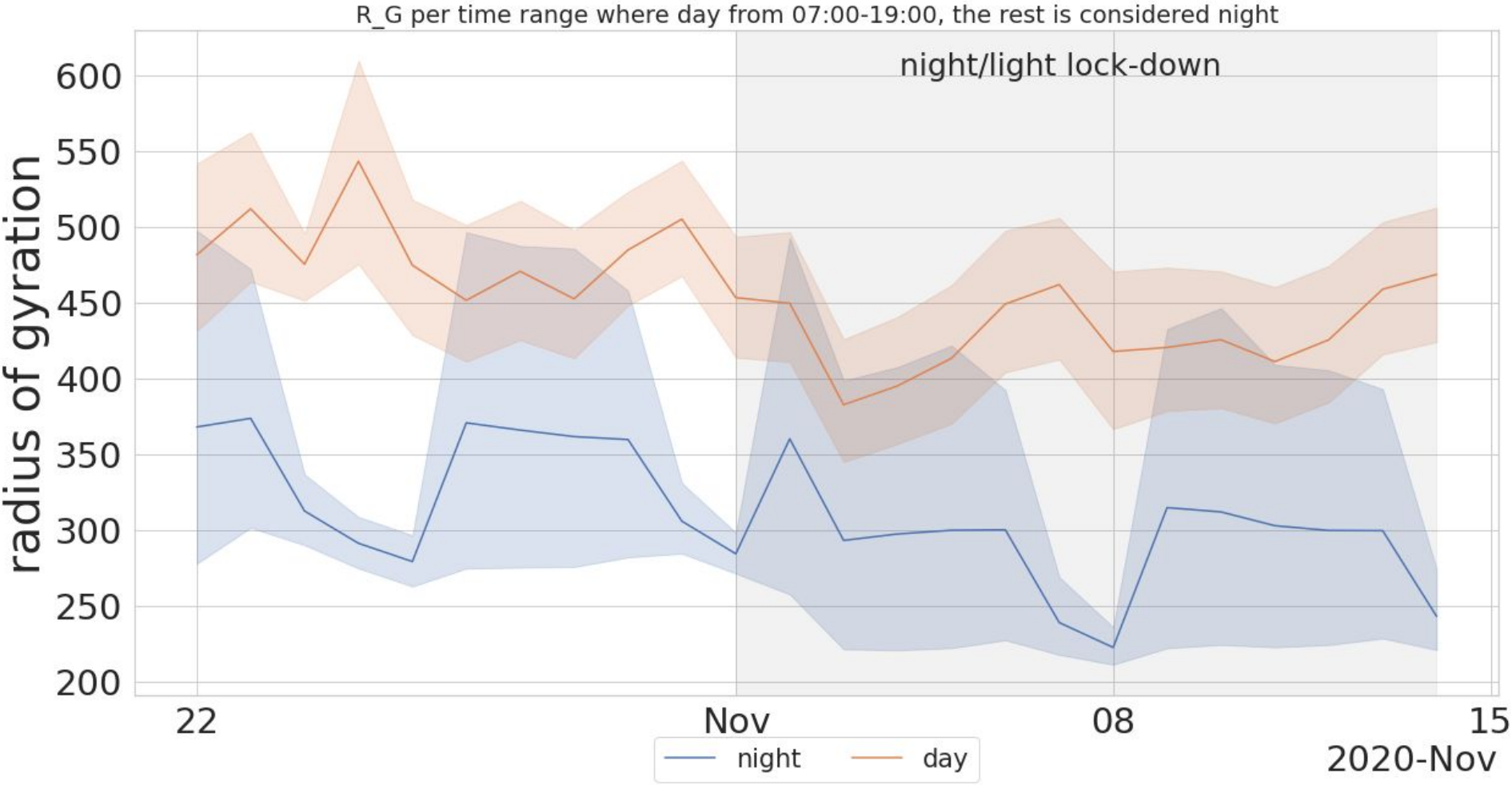
COMPLEXITY
SCIENCE
HUB
VIENNA

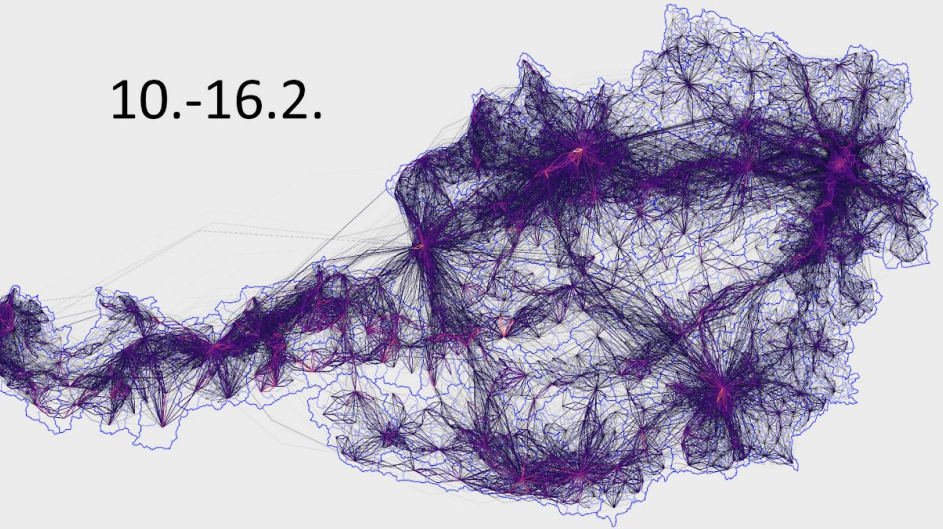
Mobility analytics

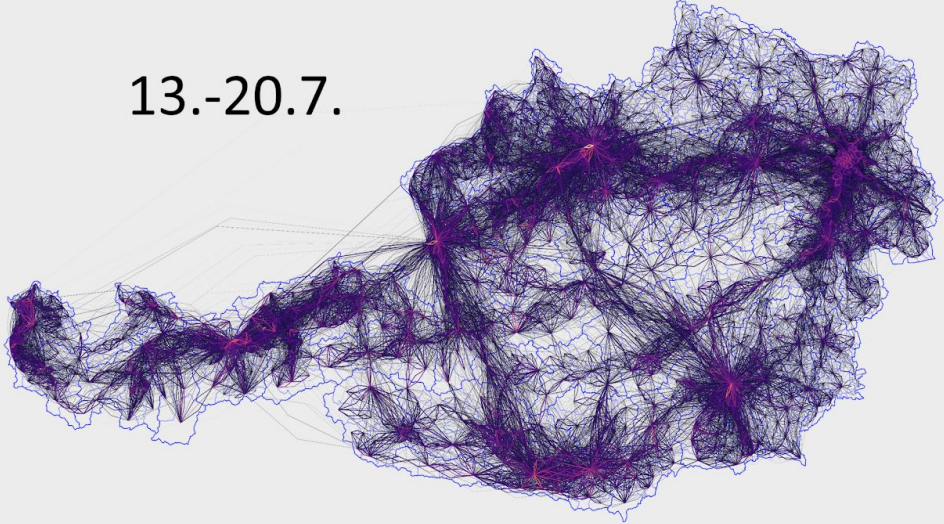
during COVID-19 | Georg Heiler

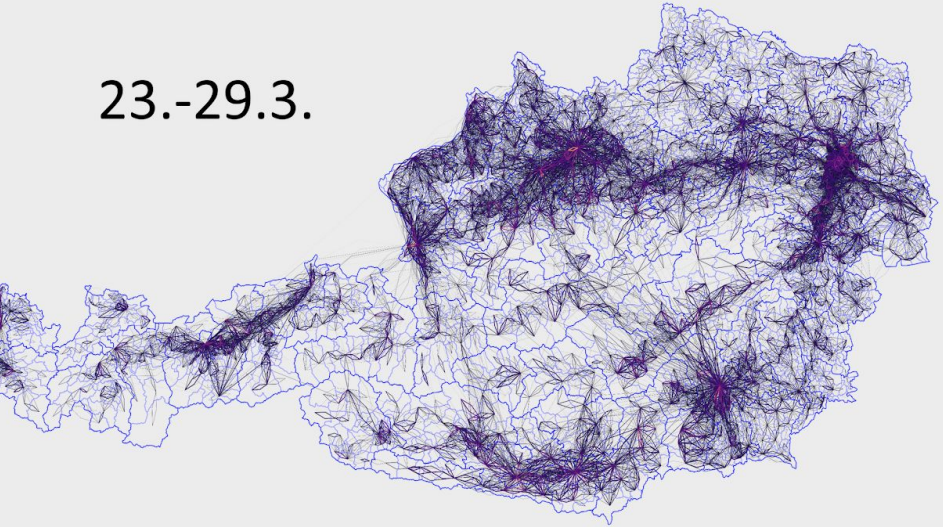


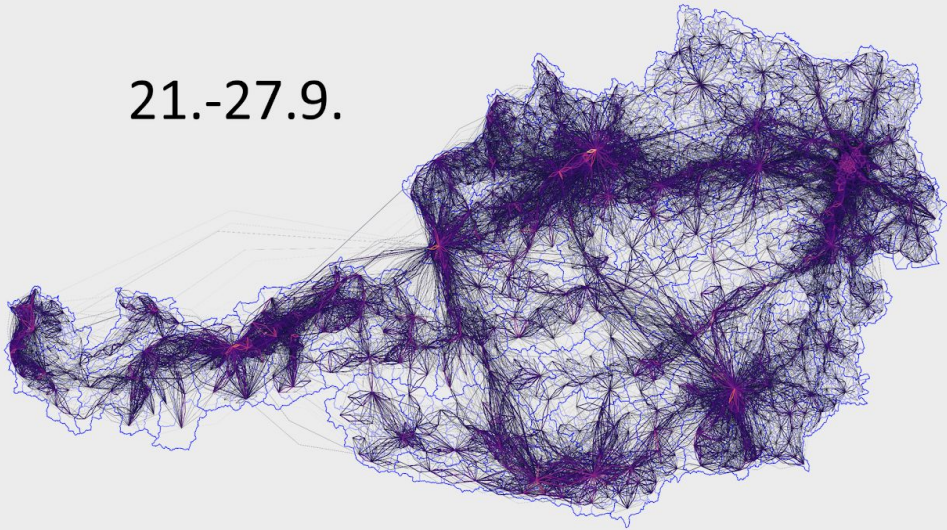
Mobility leading up to 2nd lock-down



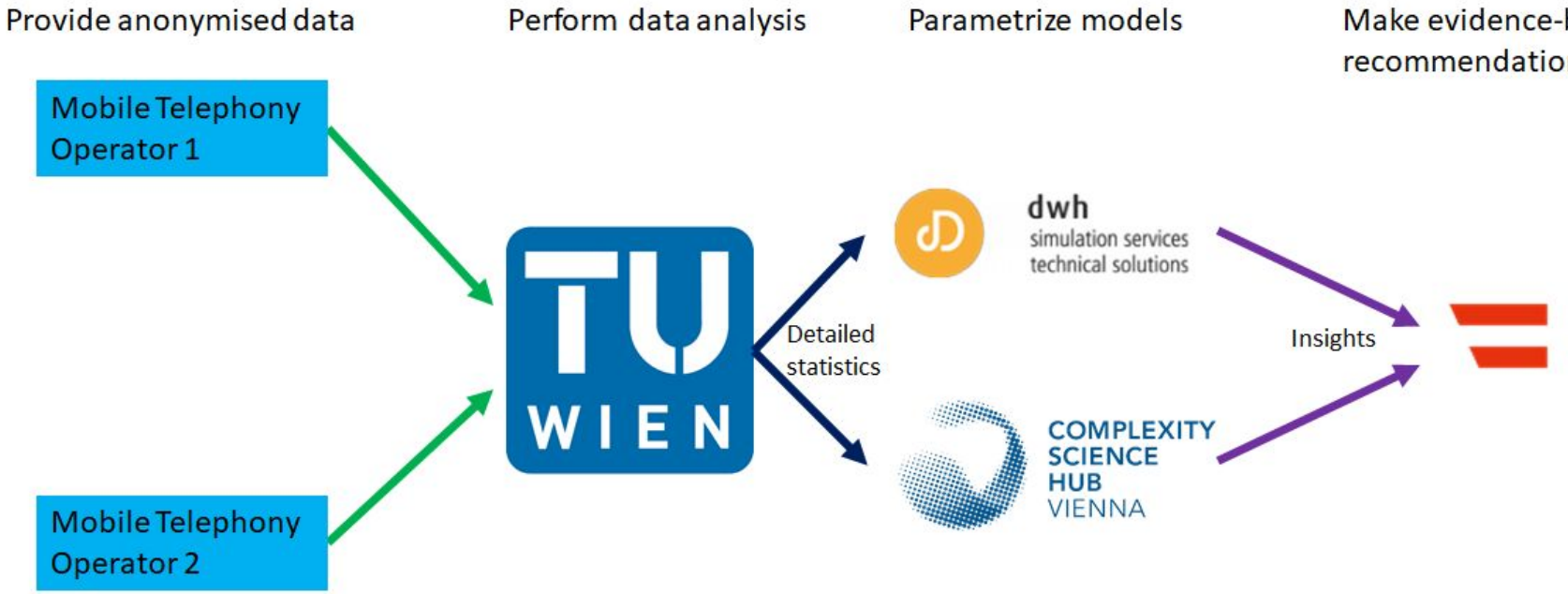

10.-16.2.


13.-20.7.


23.-29.3.


21.-27.9.

Data analysis pipeline



WWTF
WIENER WISSENSCHAFTS-, FORSCHUNGS- UND TECHNOLOGIEFONDS

Data & Methods

- Mobile phone usage data (cell tower granularity in spatial resolution)
- Re-anonymized every 24 hours
- 1.2 Million end user devices with valid demographics remain

Data & Methods

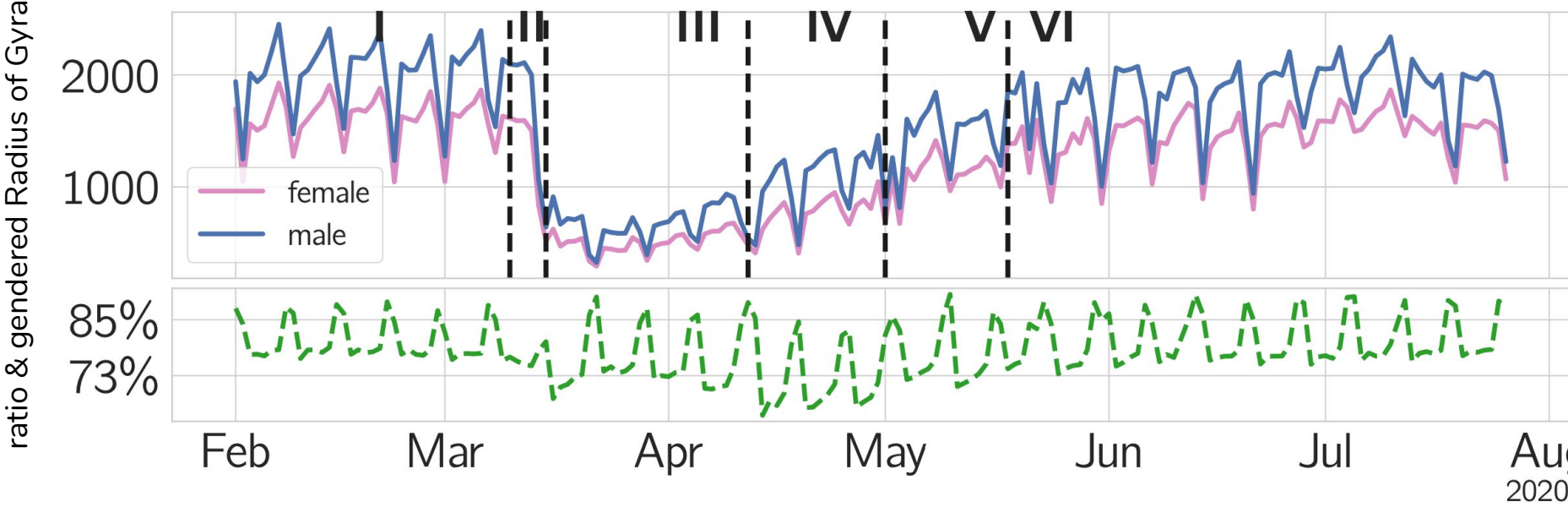
- Mobile phone usage data (cell tower granularity in spatial resolution)
- Re-anonymized every 24 hours
- 1.2 Million end user devices with valid demographics remain

compute aggregate quantities for:

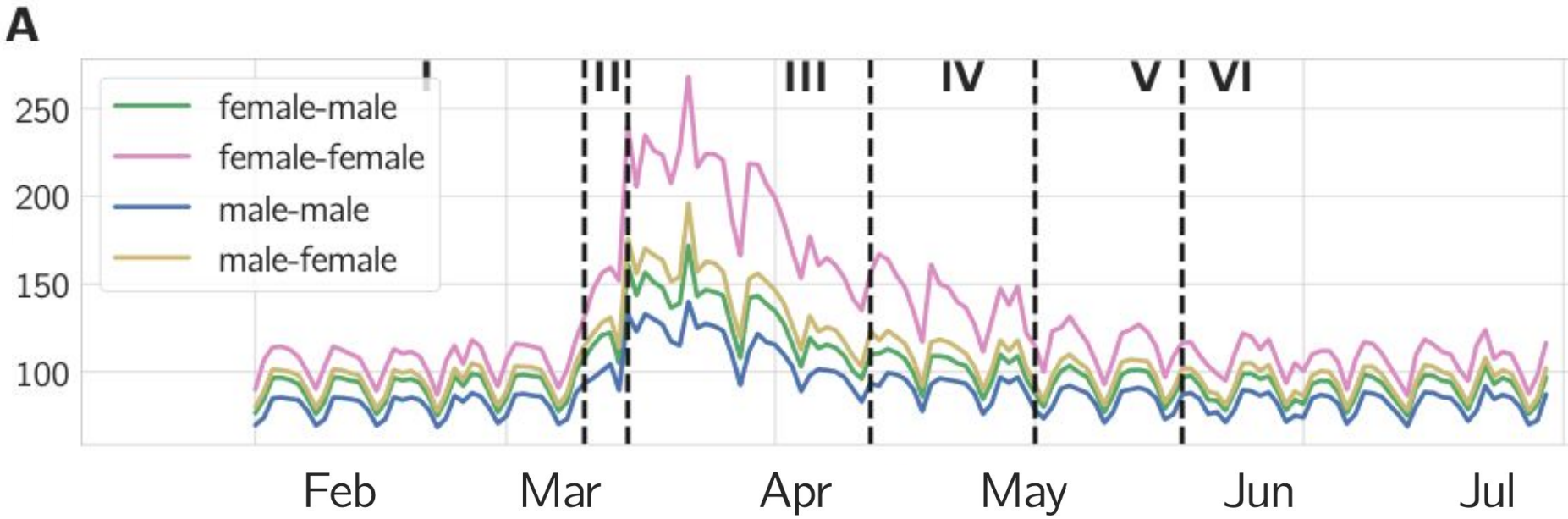
- Communication (number of calls, call duration, degree)

- Mobility (radius of gyration, public transport, examples for points of interest)

Gendered mobility



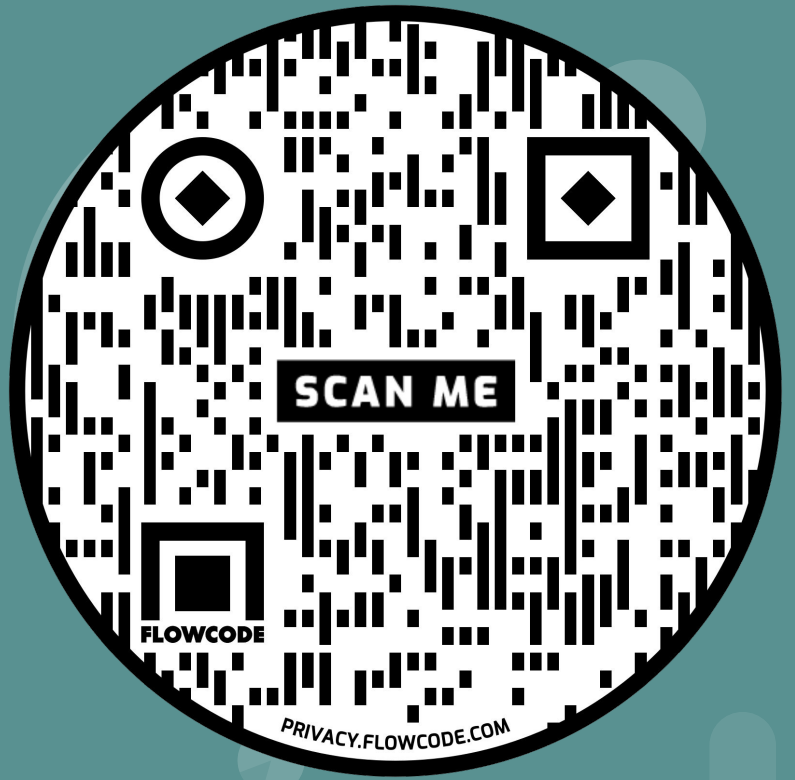
Gendered interactions



Conclusion

- Mobility indeed reduced during lock-down
- Behavioral gender differences reinforced
    - Communication network tightens: fewer, but longer interactions
    - Women increase call time stronger, but reduce number of calls less (tighter social networks?)

Scan the QR code to get the paper



We thank our collaborators and the funding agencies:

Georg Heiler, Tobias Reisch, Jan Hurt, Mohammed Forgani, Aida Omani, Farid Karimipour, Martin Bicher, Peter Klimek, Stefan Thurner, Allan Hanbury

See our other COVID publications:

- https://csh.ac.at/covid19/
- https://georgheiler.com/#featured

COMPLEXITY SCIENCE HUB VIENNA

TU WIEN

WWTF WIENER WISSENSCHAFTS-, FORSCHUNGS- UND TECHNOLOGIEFONDS

MEDIZINISCHE UNIVERSITÄT WIEN

FFG Promoting Innovation.