



**GHENT  
UNIVERSITY**

# STRAW PROJECT

Employability 21 Conference / 12-13. September 2018 – Leuven, Belgium

# STRAW PROJECT

Disentangling the sources and context of daily STress  
At Work: study protocol of a comprehensive real-time  
modelling study using portable devices

# PRESENTATION SCHEDULE

- Introduction
- Project objective(s)
- Methods
- Work plan
- Expected results and impact
- Discussion and questions

# INTRODUCTION

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- Chronic workplace stress leads to mental and cardiovascular diseases
- Knowledge about acute workplace stress is limited
- Physiological response (e.g. heart rate/respiration/skin temperature) to acute stress is traditionally measured in labs
- We focus on acute real-world stress in everyday working life

# INTRODUCTION

- Acute stress detection models can be developed through machine learning
- Combination of such machine learning technics and an Ecological Momentary Assessment (EMA) is novel
- Compared to previous studies, the data collected from the wristband gets streamed instantly via Bluetooth to the smartphone's database  
➔ Real-time processing and classification

# PROJECT OBJECTIVE(S)



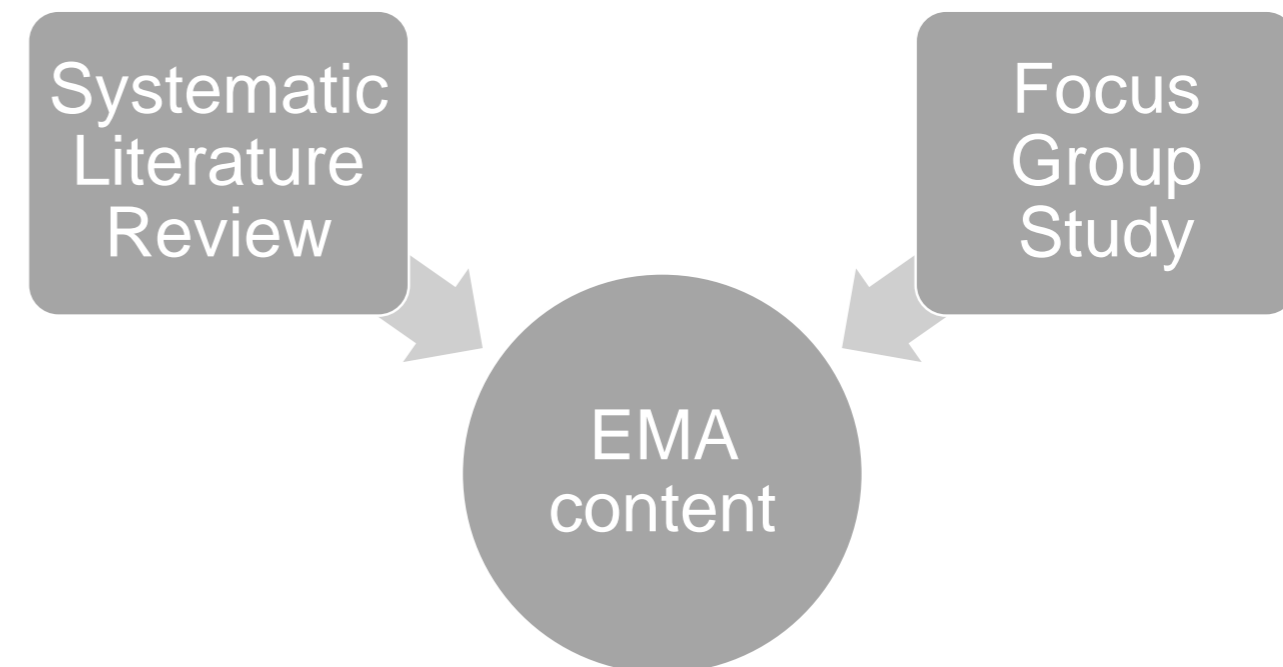
# PROJECT OBJECTIVE(S)

Analyze and model the real-time relationships in office workers between **(1)** psychosocial stress experiences within the natural work environment, **(2)** micro-level work activities and events, and **(3)** physiological signals and behaviors that can be detected technologically

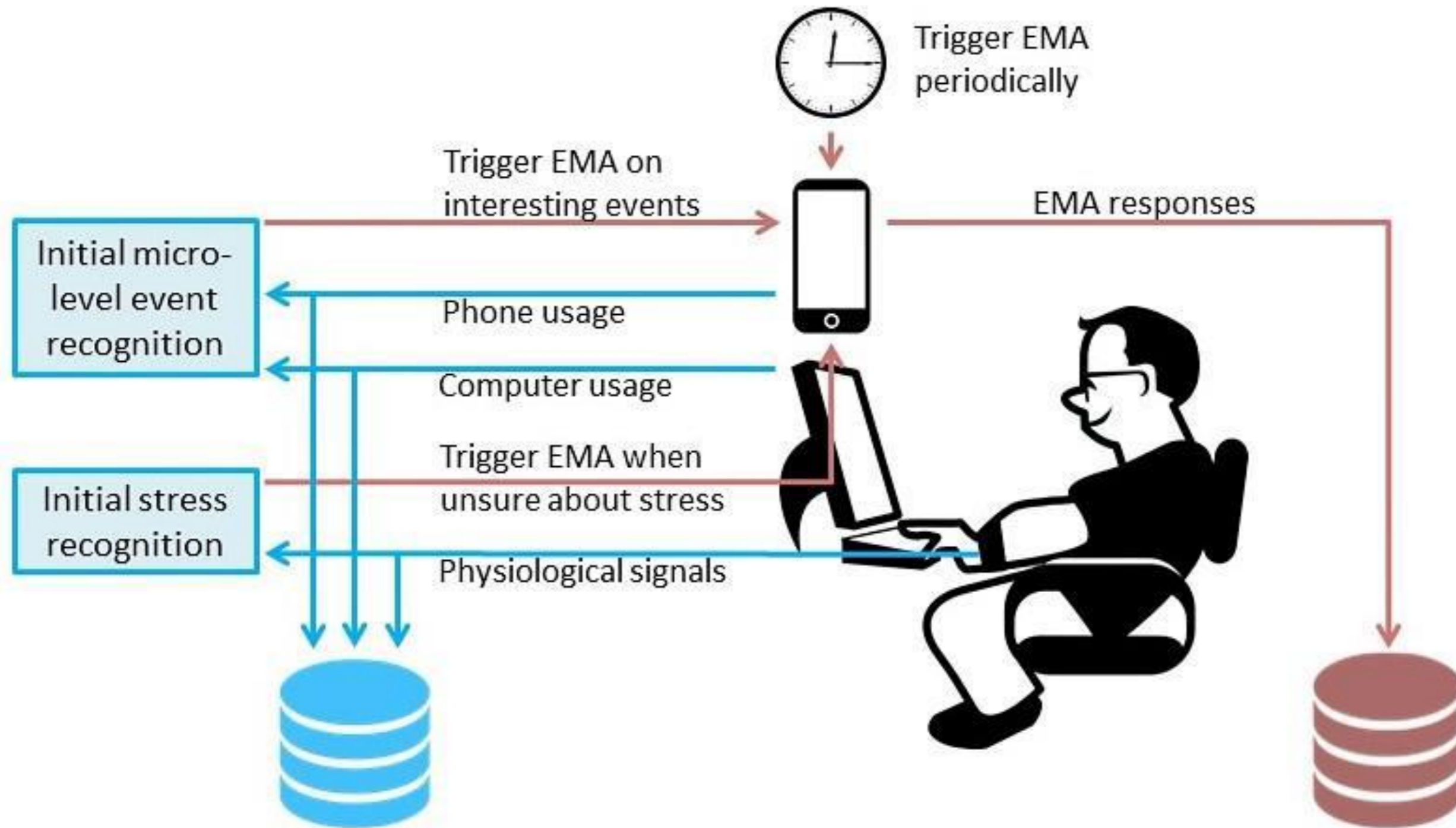
# METHODS

# DATA COLLECTION

- Field study with 100 office-based workers (50 in Flanders and 50 in Slovenia)
- Used tools:
- EMA in the android application
- Empatica® wristbands



# INITIAL MODELLING AND DATA COLLECTION



# WORK PLAN

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# WORK PLAN

	2018				2019				2020				2021			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Systematic Literature Review																
Focus Group Study																
Protocol Design																
Data-Collection Applications																
Data Collection																
Stress Modelling and Data Analysis																
Communication and Dissemination																

# EXPECTED RESULTS AND IMPACT

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- Novel contributions to the field of occupational health research
- New insights about daily fluctuating work stress experiences
  - ➔ evidence on relevant stressors in a real-time working environment
  - ➔ advise on workplace procedures and policies for reducing stress



# DISCUSSION AND QUESTIONS

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