

# Erasmus Centre for Data Analytics

Expert Practice *Virtual and Augmented Reality*





Prof.dr. Yvonne van Everdingen

Virtual Reality (VR) and Augmented Reality (AR) are increasingly used in a variety of disciplines, such as business, psychology, health care, and education. These leading technologies offer a lot of promises but will also entail many challenges to overcome.

“When the folks who understand the problems engage with the folks who understand what leading technology can do, innovation happens (Fink, Forbes 2017).”

# Virtual and Augmented Reality: Overview



We are an international, interdisciplinary group of academics conducting research related to the use of VR and AR in business, psychology, health care and education.

We help companies, psychologists, health care specialists and educators understand how to best use VR and AR to improve their performance.

The VR and AR researchers aim to:

1. Facilitate interactions between academia on the one hand and industry, psychologists and hospitals on the other hand
2. Disseminate and increase the impact of academic research

Collaboration opportunities can take different shapes:

- Data sharing and research collaboration
- Contract research/consulting
- Research funding (e.g., PhD projects)
- Internal workshops



Source image: <https://retailtrends.nl/news/50037/ikea-lanceert-augmented-reality-app>

# Virtual and Augmented Reality: The Team // Research Interests

---

**Yvonne van Everdingen**, Professor and Director // new technologies (especially VR and AR), development & marketing of new products, sustainable products

**Rene de Koster**, Professor // warehousing, robotics, material handling, container terminal operations, behavioral operations, retail operations, and sustainable logistics

**Stefan Stremersch**, Professor // innovation, new technologies (e.g., VR), (healthcare and pharmaceutical) marketing

**Matthias Wieser**, Professor // clinical psychology and affective neuroscience, pain research

**Xi Chen**, Associate Professor // quantitative marketing, digital marketing, AR applications

**Jelle de Vries**, Assistant Professor // restaurant analytics, warehousing, behavioral operations management, behavior in truck transportation

**Ana Martinovici**, Assistant Professor // eye tracking, visual attention in consumer choice processes

**Ana Scekcic**, Assistant Professor // eye tracking, product displays and assortment, consumer choice processes

**Marta Andreatta**, Assistant Professor // mechanisms underlying and risk factors for psychiatric disorders

**Mahsa Alirezai**, PhD student // technology and operations management

*We help partners gain insights into the potential applications of VR and AR in their business, treatments, or educational activities and how these applications can bring value.*

Our process involves 3 steps:



1. Discovery: exploring opportunities for relevant VR and AR applications.
2. Data collection and analysis: conducting interviews, experiments, etc. and analyze data to test the success potential of the different opportunities.
3. Evaluation and feedback: evaluate the options and provide feedback and recommendations.



# Virtual and Augmented Reality: Research Methods



Lab experiments



Eye tracking



Field experiments



Data analytics



In-depth case study  
(interviews, survey)

# Virtual and Augmented Reality: Examples of Ongoing Projects

---

## Projects in Business:

- The use of AR apps to test products in a virtual environment (with Charlie Temple)
- The use of VR as a communication tool (storytelling, showing new products, attracting customers, etc.)
- The opportunities of VR to become a substitute for a real-life experience (with University of California Riverside)
- The use of VR for optimal routing and safety in warehouses (with STC Group)

## Projects in Psychology:

- The use of VR for investigating the underlying learning mechanisms of anxiety- and fear-related disorders
- The use of VR to study human behavior and avoidance approach in social interactions
- VR and AR as pain management tool



# Passion provides purpose, but data drives decisions

Prof.dr. Yvonne van Everdingen



[yeverdingen@rsm.nl](mailto:yeverdingen@rsm.nl)



[www.eur.nl/data](http://www.eur.nl/data)



<https://www.linkedin.com/in/yvonne-van-everdingen-a0844028/>

