Ecological validity of biomarkers in drug research

Koopmans, I.W.

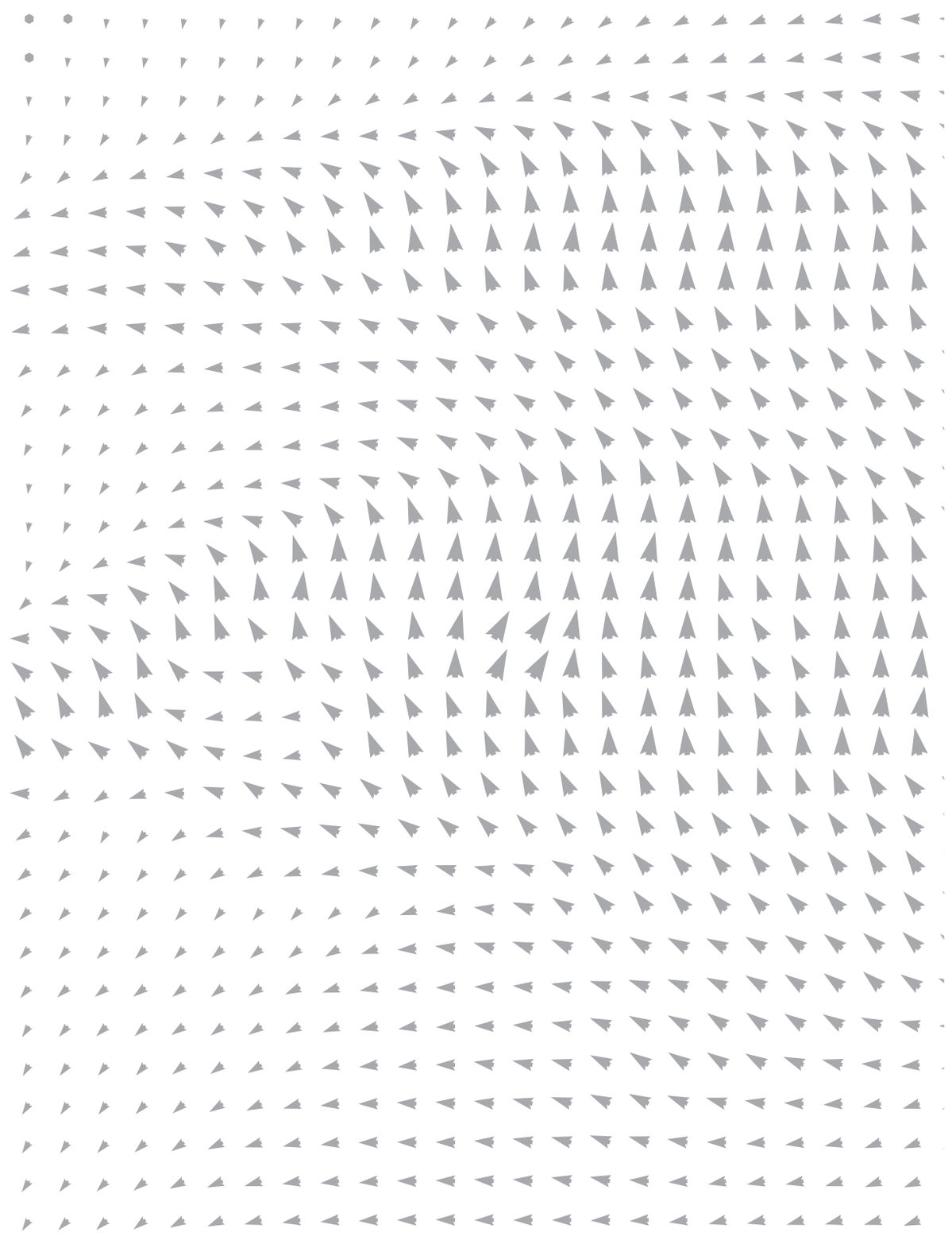
CURRICULUM VITAE

Ingrid Koopmans (born 1991 in Wageningen) grew up in Lochem, the Netherlands. She completed her secondary education at Staring College before enrolling at the University of Twente, where she studied Technical Medicine. During her studies, she was actively involved in student life and participated in various extracurricular activities alongside her academic work.

After graduating, Ingrid started her professional career in November 2017 at CHDR (Centre for Human Drug Research) in the Method Development group. There, she worked within a multidisciplinary team to unlock the true potential of biomarkers in clinical trials. Although initially uncertain about pursuing a PhD, she started her doctoral journey in 2021 under supervision of dr. ir. R.J. Doll and prof. dr. G.J. Groeneveld in 2021.

Ingrid's research initially covered a broad scope but became increasingly focused on pain-related studies after she joined the Pain research group as a Clinical Scientist in 2022. In 2023, she was appointed Experienced Clinical Scientist within the same group. Since July 2025, she continued as Senior Clinical Scientist. In this role, she guides research initiatives, oversees the project leaders working at clinical trials aimed at the understanding and treatment of pain, and supervises PhD students involved in related research.

Since 2016, Ingrid has lived in Leiden with her partner, Marc Hulsebosch. Outside of work, she enjoys travelling with Marc and renovating their home and garden.



SCIENTIFIC CONTRIBUTIONS

FULL PAPERS

The interactive walkway provides fit-for-purpose fall-risk biomarkers in the elderly: Comparison of zolpidem and suvorexant. **Ingrid Koopmans**, Daphne J. Geerse, Lara de Ridder, Melvyn Roerdink, Maria Joanna Juachon, Clemens Muehlan, Jasper Dingemanse, Joop van Gerven, Geert Jan Groeneveld, Rob Zuiker

Fit for purpose of on-the-road driving and simulated driving: A randomised crossover study using the effect of sleep deprivation. **Ingrid Koopmans**, Robert J. Doll, Hein E C van der Wall, Marieke de Kam, Geert Jan Groeneveld, Adam F. Cohen, Rob Zuiker

The impact of a virtual wound on pain sensitivity: insights into the affective dimension of pain. **Ingrid Koopmans**, Robert-Jan Doll, Maurice Hagemeijer, Robert van Barneveld, Marieke de Kam, Geert Jan Groeneveld

Virtual Reality in a nociceptive pain test battery: a randomized, placebo controlled two-way crossover study with diazepam. **Ingrid Koopmans**, Koen Rietdijk, Roman Bohoslavsky, Robert-Jan Doll, Geert Jan Groeneveld

Safety, pharmacokinetics, and pharmacodynamics of a clc-1 inhibitor - a first-in-class compound that enhances muscle excitability: a phase I, single- and multiple-ascending dose study. Titia Ruijs, Kaye de Cuba, Jules Heuberger, John Hutchison, Jane Bold, Thomas Grønnebæk, Klaus Jensen, Eva Chin, Jorge Quiroz, Thomas Petersen, Peter Flagstad, Marieke de Kam, Michiel van Esdonk, Erica Klaassen, Robert J. Doll, **Ingrid Koopmans**, Annika de Goede, Thomas Pedersen, Geert Jan Groeneveld

Objective monitoring of facioscapulohumeral dystrophy during clinical trials using a smartphone app and wearables: observational study. Ghobad Maleki*, Ahnjili Zhuparris*, **Ingrid Koopmans**, Robert J Doll, Nicoline Voet, Adam Cohen, Emilie van Brummelen, Geert Jan Groeneveld, Joris De Maeyer
**these authors contributed equally*

A smartphone- and wearable-based biomarker for the estimation of unipolar depression severity. Ahnjili Zhuparris, Ghobad Maleki, Liesbeth van Londen, **Ingrid Koopmans**, Vincent Aalten, Iris E. Yocarini, Vasileios Exadaktylos, A. van Hemert, Adam Cohen, Pim Gal, Robert J. Doll, Geert Jan Groeneveld, Gabriël Jacobs, Wessel Kraaij

Smartphone and Wearable Sensors for the Estimation of Facioscapulohumeral Muscular Dystrophy Disease Severity: Cross-sectional Study. Ahnjili Zhuparris, Ghobad Maleki, **Ingrid Koopmans**, Robert J. Doll, Nicoline Voet, Wessel Kraaij, Adam Cohen, Emilie van Brummelen, Joris De Maeyer, Geert Jan Groeneveld

Muscle velocity recovery cycles as pharmacodynamic biomarker: Effects of mexiletine in a randomized double-blind placebo-controlled cross-over study. Titia Ruijs, **Ingrid Koopmans**, Marieke de Kam, Martijn Tannemaat, Geert Jan Groeneveld, Jules Heuberger

Objective Monitoring of Facioscapulohumeral Dystrophy During Clinical Trials Using a Smartphone App and Wearables: Observational Study. Ghobad Maleki, Ahnjili Zhuparris, **Ingrid Koopmans**, Robert J. Doll, Nicoline Voet, Adam Cohen, Emilie van Brummelen, Geert Jan Groeneveld, Joris De Maeyer

A crossover study evaluating the sex-dependent and sensitizing effects of sleep deprivation using a nociceptive test battery in healthy subjects. Hemme J. Hijma, **Ingrid Koopmans**, Erica Klaassen, Robert J. Doll, Rob Zuiker, Geert Jan Groeneveld

Effects of Mexiletine and Lacosamide on Nerve Excitability in Healthy Subjects: A Randomized, Double-Blind, Placebo-Controlled, Crossover Study. Titia Q Ruijs, **Ingrid Koopmans**, Marieke de Kam, Michiel van Esdonk, Martin Koltzenburg, Geert Jan Groeneveld, Jules Heuberger

Simultaneous measurement of intra-epidermal electric detection thresholds and evoked potentials for observation of nociceptive processing following sleep deprivation. Boudewijn van den Berg, Hemme Hijma, **Ingrid Koopmans**, Robert J. Doll, Rob Zuiker, Geert Jan Groeneveld, Jan Buitenweg

Using machine learning techniques to characterize sleep-deprived driving behaviour. Hein van der Wall, Robert J. Doll, Gerard van Westen, **Ingrid Koopmans**, Rob Zuiker, Koos Burggraaf, Adam Cohen

The use of machine learning improves the assessment of drug-induced driving behaviour. Hein van der Wall, Robert J. Doll, Gerard van Westen, **Ingrid Koopmans**, Rob Zuiker, Koos Burggraaf, Adam Cohen

Nighttime safety of daridorexant: Evaluation of responsiveness to an external noise stimulus, postural stability, walking, and cognitive function. Massimo Magliocca, **Ingrid Koopmans**, Cedric Vaillant, Vincent Lemoine, Rob Zuiker, Jasper Dingemanse, Clemens Muehlan