

ANNE MARIJE KAAG



CONTACT INFORMATION

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EDUCATION

2012 – 2016 PhD (Amsterdam University Medical Center, location AMC)
2009 – 2011 Master Brain and Cognitive Science (University of Amsterdam)
2006 – 2009 Bachelor Psychobiology (University of Amsterdam)

EMPLOYMENT HISTORY

2019 – present Assistant professor Clinical Neuropsychology - Department of Clinical, Neuro and Developmental Psychology, VU University Amsterdam
2018 – 2019 Postdoctoral researcher - Department of Psychiatry, University Medical Center (location AMC), Amsterdam
Project: Sex differences in the neural working mechanisms of cocaine use disorder
2016 – 2018 Postdoctoral researcher – Department of Developmental Psychology – University of Amsterdam
Project: Disrupting memory reconsolidation to treat alcohol use disorder
2012 – 2016 PhD-candidate - Department of Psychiatry, University Medical Center (location AMC), Amsterdam
Project: Are cocaine users too sensitive? Structural and functional brain abnormalities in regular cocaine users
2011 - 2012 Research assistant – Department of Radiology, University Medical Center (location AMC), Amsterdam
Project: Effects of psychotropic drugs on the developing brain

POSITIONS AND ACADEMIC ACTIVITIES

2021 – present Member of the faculty library committee (VU Amsterdam)
2020 – present Mentoring (Research) Master students (VU Amsterdam)
2020 – present Ad hoc reviewer Scientific and Ethical Review Board (VU Amsterdam)
2019 – present Organizing committee “Bimonthly Lunch Meetings. *Department of Clinical, Neuro and Developmental Psychology, VU Amsterdam*
2017 Organizing committee “How to retrieve alcohol/drug-related memories in an experimental or clinical setting, and what to do with it?” *Conference symposium, Research Society on Alcoholism, Denver, USA.*
2017 Organizing committee “What’s Cooking? Using Neuroimaging in the field of developmental psychology. *UvA, Amsterdam*
2015 Organizing committee “Is addiction a disease?” *Public symposium, Rotterdam & Amsterdam*
2015 Organizing committee “What does Amsterdam know about the brain?” *Symposium, Amsterdam UMC, location AMC, Amsterdam*
2014 Organizing committee “Annual Meeting Graduate School Neurosciences” Amsterdam Rotterdam (ONWAR).
2012 – present Ad hoc reviewer (*Drug and Alcohol Dependence; European Addiction Research; Frontiers in Human Neuroscience; Plos One; Psychiatric Research: Neuroimaging; Addiction Biology; European Psychiatry; Frontiers in Neuroscience; Psychiatric Research; Psychological Medicine*)
2012-2015 Organizing committee “Weekly Brain Imaging Meetings”. *Amsterdam UMC, location AMC, Amsterdam*

SPECIALIZED TRAINING

2021 University Teaching Qualification (VU Amsterdam)
2019 Erasmus Summer Program: Gender and Health; Gender in Research (Erasmus University Rotterdam)
2016 Article 9 course on Laboratory Animal Science (University of Utrecht)
2012 – 2016 ONWAR Graduate School & AMC Graduate School
2012 BROK: Basic course for clinical investigators (Amsterdam University Medical Center) – renewed in 2016 & 2022

RESEARCH FUNDING

2021 KWF (role: Co-PI): *Forget smoking: erasing tobacco memories in the fight against cancer*
2021 ZonMW GGZ Research Fellowship (role: PI) *Stress-related predictor to relapse in alcohol use disorder: do sex and gender matter?*
2020 Young Investigator Grant (Brain & Behavior Research Foundation (Role: PI) - *Identifying the sex-dependent effects of guanfacine on maladaptive emotional processing in alcohol-dependent patients*
2020 Stichting Steun VCVGZ (role: co-PI) - *Long-term outcomes of ADHD: psychosocial, physical and societal, functioning of adults diagnosed with ADHD in childhood. Targets for optimization of treatment and (secondary) prevention.*

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- 2020** ZonMw Gender and Prevention (role: co-PI) - *Sex and Gender: a possible key to understand heterogeneity in the risk factors and long-term outcomes in ADHD*
- 2017** Amsterdam Brain And Cognition Talent Grant (role: PI) - *Working memory and the sensitivity to emotional and addiction-related cues in heavy cocaine users*
- 2017** Amsterdam Neuroscience Alliance Project Grant (role: co-PI) - *Interfering with emotions: targeting emotional dysregulation in adult ADHD*

AWARDS AND FELLOWSHIPS

- 2021** Nomination for the Teacher Talent Award VU
- 2019** ZonMw Gender in Research Award (collaborator)
- 2019** ZonMw Gender in Health Fellowship (personal)
- 2018** Distinguished Women In Science Travel Fund (personal)
- 2017** Travel Award Research Society on Alcoholism (personal)
- 2015** Travel Award European Foundation of Alcohol Research (personal)
- 2015** Travel Award AUF Spinoza Fund (personal)
- 2014** NWO Stimulation Fund Open Access Conference contribution (collaborator)
- 2014** NGNH Fund for scientific meeting (collaborator)

PUBLICATION HISTORY (SINCE 2013)

Complete list of published work on google scholar: <https://scholar.google.nl/citations?user=JEBuuMcAAA&hl=nl>

ONGOING/PLANNED PROJECTS

- 2022 – 2024 Sex and Gender Differences in stress-related predictors of relapse in alcohol use disorder. Collaborators: A.E. Goudriaan, A. Huizink
- 2022 – 2024 Identifying the sex-dependent effects of guanfacine on the neural correlates of emotional processing in alcohol-dependent patients. Collaborators: A.E. Goudriaan, A. Huizink, A. Schranter.
- 2020 – present Identifying (Sex and Gender-related) Factors to understand heterogeneity in the long-term outcomes in ADHD. Collaborators: J. Oosterlaan, S. Noordermeer, M. Luman (VU Amsterdam)
- 2019 – present The relationship between alcohol cue-reactivity and stress-reactivity in at risk drinkers. Collaborators: A.J. Huizink, A.M. Kleiboer, I. Firdaus (VU Amsterdam)
- 2018 – present Modifying smoking-related memories: a 3D-EMDR intervention for smoking cessation. Collaborators: T.J. de Vries, Y. van der Werf, O. van der Heuvel (Amsterdam UMC, location VUmc)

TEACHING AND MENTORING

VU University, Amsterdam, the Netherlands

- 2020 – 2021 Coordinator and lecturer International Bachelor Theses
- 2019 – present Coordinator and lecturer Research Tool Kit, Bsc Psychology
- 2019 – 2022 Coordinator and lecturer Neuropsychiatry, Msc Psychology
- 2019 – 2020 Lecturer Psychopharmacology, Bsc Psychology
- 2019 – present Supervisor Practical Skills for Researchers, Bsc Psychology
- 2019 – present Supervisor BSc and MSc theses students (Clinical Neuropsychology, Cognitive Neuropsychology)

University of Amsterdam, the Netherlands

- 2012 – 2020 Supervisor BSc and MSc thesis students (Psychobiology, Cognitive Neuroscience, Clinical Psychology)
- 2019 - 2020 Guest lecturer "Addiction: Internal motivation, Regulation and Emotion", BSc Psychobiology)
- 2018 – 2019 Career coaching of Master students of Brain and Cognitive Sciences
- 2018 Guest lecturer "Cognition: Drugs and Addiction", BSc Beta-Gamma
- 2017 Guest lecturer MSc Advanced Cognitive Neurobiology and Clinical Neurophysiology
- 2016 – 2017 Guest lecturer "Addiction: Laboratory animals in addiction research", BSc psychobiology
- 2016 Coordinator and Lecturer "Learning and Memory", BSc Psychology
- 2013 Guest lecture Drug and addiction, BSc Medicine
- 2013 Lecturer CSCA Summer School 2013: Genes, the brain and behavior

University of Leiden, the Netherlands

- 2017-2019 Guest lecturer "The pharmacology of addictive substances", Minor Brain & Cognition

Karolinska Institute, Sweden

- 2016-2017 Guest lecturer "the Neurobiology of Psychiatric disorders", Psychiatry Graduate School

1. The role of sex in the association between cannabis use and working memory related brain activity. Kroon, E., Kuhn, L.N., **Kaag, A.M.**, Filbey, F., Cousijn, J. *Journal of Neuroscience Research* (in press)
2. The association between insula morphometry and craving regular cocaine users. Does sex matter? Malek, A.G., Goudriaan, A.E., **Kaag, A.M.**, (in press)
3. Cousijn, J., Toenders, Y.J., van Velzen, L., **Kaag, A.M.** (2022) The relation between cannabis use, dependence severity and white matter microstructure: A diffusion tensor imaging study. *Addiction Biology*, 27 (1): e13081
4. Kaiser, A., Reneman, L., Lucassen, P.J., de Vries, T.J., Schrantee*, A., **Kaag, A.M.***. (2021) Targeting working memory to modify emotional reactivity in adult attention deficit hyperactivity disorder: a functional magnetic resonance imaging study. * Shared last authorship. *Brain Imaging and Behavior*
5. Cousijn, J., Ridderinkhof, R., **Kaag, A.M.** (2021) Sex-dependent prefrontal cortex alterations in regular cocaine users: a working memory fMRI study *Addiction Biology*, 26(5): e13003
6. **Kaag, A.M.***, Khemiri, L.,* Dom, G., Franck, J., Jayaram-Lindström, N., Goudriaan, A.E. (2020). Family History of Alcohol Abuse Predicts Self-rated Impulsivity in Patients with Alcohol Use Disorder: A Multisite Study. *European Addiction Research*; 26: 85-95 *Shared first authorship
7. Chye, Y., Gutman, B., Ching, C., ... **Kaag, A.M.**, ... Conrod, P., Thompson, P., Garavan, H., (2019). Subcortical surface morphometry in substance dependence: An ENIGMA addiction working group study. *Addiction Biology* (Online Ahead of Print)
8. **Kaag, A. M.**, Wiers, R. W., de Vries, T. J., Pattij, T., & Goudriaan, A. E. (2019). Striatal alcohol cue-reactivity is stronger in male than female problem drinkers. *European Journal of Neuroscience*; 50 (3): 2264-2273
9. Schulte, MHJ., **Kaag, A.M.**, Boendermaker, W.J., van den Brink, W., Goudriaan, A.E. & Wiers, R.W. (2019). The effect of N-acetylcysteine and working memory training on neural mechanisms of working memory and cue reactivity in regular cocaine users. *Psychiatry Research: Neuroimaging* 287, 56-59
10. Karel, P., Almacellas A., Prijn, J., **Kaag, A.M.**, Reneman, L., Verheij MMM., Homberg, J. (2019). Appetitive to aversive counterconditioning as intervention to reduce reinstatement of reward seeking behavior: the role of the serotonin transporter. *Addiction Biology*; 24 (3), 344-354
11. **Kaag, A.M.**, Schulte, M., van Wingen, G., Homberg, J., van den Brink, W., Reneman, L., (2018) The relation between gray matter volume and the use of alcohol, tobacco, cocaine and cannabis in male polysubstance users. *Drug and Alcohol Dependence*; 187, 186-194
12. **Kaag, A.M.**, Homberg, J., Reneman, L., van den Brink, W., van Wingen, G (2018). Enhanced amygdala-striatal functional connectivity during the processing of cocaine cues in male cocaine users with a history of childhood trauma. *Frontiers in Psychiatry*; 9 (70)
13. **Kaag, A.M.**, Goudriaan, A.E., de Vries, T.J., Pattij, T., Wiers, R.W (2018). A high working memory load preceding alcohol-memory reactivation reduces cue-induced craving for alcohol. *Psychopharmacology*; 235 (3): 695-708
14. Schulte, M.H.J., Goudriaan, A.E., **Kaag, A.M.**, Kooi, D.P., van den Brink, W., Wiers, R.W., Schmaal, L. (2017). The effect of N-acetylcysteine on brain glutamate and GABA concentrations and on smoking cessation: a randomized, double-blind, placebo-controlled trial. *The Journal of Psychopharmacology*; 31(10): 1377-1379
15. **Kaag, A.M.**, Schulte, MHJ., Wiers, R.W., Schmaal, L., van den Brink, W., Reneman, L., Homberg, J., van Wingen, G., Goudriaan, A.E (2017). Prefrontal Glx and GABA concentrations and impulsivity in cigarette smokers and smoking polysubstance users. *Drug and Alcohol Dependence*; 179, 117-123
16. **Kaag, A.M.**, van Wingen, G., Caan, M.W.A., Homberg, J., van den Brink, W., Reneman, L., (2017). White matter alterations in cocaine users are negatively related to the number of additionally (ab)used substances. *Addiction Biology*; 22 (4): 1048-1056
17. **Kaag, A.M.**, Levar, N., Woutersen, K., van den Brink, W., Homberg, J., van Wingen, G., Reneman, L. (2016). Hyper-responsiveness of the neural fear network during fear conditioning and extinction learning in male cocaine users. *American Journal of Psychiatry*; 173(10): 1033-1042
18. **Kaag, A.M.**, R.S. Schluter, J. Homberg, Karel, P., W. van den Brink, L. Reneman, G. van Wingen (2016). Aversive counterconditioning attenuates reward signalling in the ventral striatum. *Frontiers in Human Neuroscience*; 10(418)
19. **Kaag, A.M.**, Crunelle, C.L., Hanna van den Munkhof, Liesbeth Reneman, Judith R. Homberg, Bernard Sabbe, Wim van den Brink, Guido van Wingen (2015). Dysfunctional amygdala reactivity and amygdala connectivity with the prefrontal cortex in regular cocaine users. *Human Brain Mapping*; 36(10): 4222-4230

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20. **Kaag, A. M.**, Crunelle, C. L., van Wingen, G., Homberg, J., van den Brink, W., & Reneman, L. (2014). Relationship between trait impulsivity and cortical volume, thickness and surface area in male cocaine users and non-drug using controls. *Drug and Alcohol Dependence*; 144, 210-2017
21. **Kaag, A.M.**, Crunelle, C.L., van Wingen, G., van den Munkhof, H., Homberg, J.R., Reneman, L., van den Brink, W. (2013). Reduced frontal brain volume in non-treatment seeking cocaine dependent individuals: exploring the role of impulsivity, depression and smoking. *Frontiers in Human Neuroscience*; 8(7)
22. Schouw, M. L. J., **Kaag, A M.**, Caan, M. W. a, Heijtel, D. F. R., Majoie, C. B. L. M., Nederveen, J., Booij, J., et al (2013). Mapping the hemodynamic response in human subjects to a dopaminergic challenge with dextroamphetamine using ASL-based pharmacological MRI. *NeuroImage*; 72, 1-9
23. Schouw, M. L. J., De Ruiter, M. B., **Kaag, A M.**, Van den Brink, W., Lindauer, R. J. L., & Reneman, L. (2013). Dopaminergic dysfunction in abstinent dexamphetamine users: Results from a pharmacological fMRI study using a reward anticipation task and a methylphenidate challenge. *Drug and alcohol dependence*; 130(1-3): 52-60

NON-REFEREED ARTICLES

1. **Kaag, A.M.**, Levar, N., Woutersen, K., van den Brink, W., Homberg. J., van Wingen. G., Reneman, L. (2016). Zijn cocaïnegebruikers te gevoelig voor negatieve prikkels? *Tijdschrift voor Psychiatrie*, 58