

Curriculum Vitae

Gabriela Gan, Dr. rer. nat. (Ph.D.)

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Position

- since 09/2016 Postdoctoral Fellow, Visiting scientist, Systems Neuroscience in Psychiatry, Central Institute of Mental Health, Mannheim, Germany (PIs: Dr. Dr. Heike Tost, Prof. Dr. Andreas Meyer-Lindenberg)
- since 03/2015 Postdoctoral Fellow, Department of Psychiatry, Icahn School of Medicine at Mount Sinai, New York, USA (PIs: Dr. Nelly Alia-Klein & Dr. Rita Z. Goldstein)
- 08/2014 - 03/2015 Clinical Research Coordinator, Department of Psychiatry, Icahn School of Medicine at Mount Sinai, New York, USA (PIs: Dr. Nelly Alia-Klein & Dr. Rita Z. Goldstein)
- 02/2009 - 12/2013 Research Associate, Department of Psychiatry and Psychotherapy, Section of Systems Neuroscience, Technische Universität Dresden, Germany (PI: Dr. Michael N. Smolka)

Education

- 12/2014 **Dr. rer. nat. in Psychology (equiv. to Ph.D.)**, Technische Universität Dresden, Germany
Title of dissertation: *Neural and behavioral mechanisms underlying alcohol-induced loss of control over behavior*.
Published in *Biological Psychiatry*, *J Cerebral Blood Flow & Metabolism*, and *Neuropsychopharmacology*, see Peer-Reviewed Journal Articles
- 10/2001-08/2008 **Diploma in Psychology (equiv. to MSc)**, Heinrich-Heine Universität Düsseldorf, Germany
External Diploma/Master's thesis at the Department of Systems Neuroscience, University Medical Center, Universität Hamburg, Germany
Title of diploma/master's thesis: *Effect of language task demands on the neural response during lexical access: A functional magnetic resonance imaging priming study*.
Published in *Brain and Behavior*, see Peer-Reviewed Journal Articles
- 09/2004-09/2005 Study abroad in Psychology, Université Victor Segalen Bordeaux II, France
- 10/2000-07/2001 Romanic language studies, Heinrich-Heine Universität Düsseldorf, Germany

Awards, Stipends, Funding

- 09/2016-02/2017 Return stipend for German scientists, German Academic Exchange Service (DAAD), Bonn, Germany
- 06/2015 *Disease Models & Mechanisms* Travel grant for the Annual Meeting of the Society for Neuroscience in Chicago, The Company of Biologists, UK
- 12/2014 Best paper award 2014, Department of Psychiatry and Psychotherapy, Technische Universität Dresden, Germany; Article: Gan *et al.* (2014), *Biological Psychiatry*.
- 01-03/2014 Stipend for final phase of PhD thesis, Graduate academy, Technische Universität Dresden, Germany
- 05/2013 Funding for open access publication, German Research Foundation (DFG) and Open Access Publication Funds of the Technische Universität Dresden; Article: Gan *et al.* (2013), *Brain and Behavior*.

- 06/2013 Travel award for the 36th Annual Meeting of the Research Society on Alcoholism, Orlando, Association of Friends and Sponsors of TU Dresden
- 10/2004-07/2005 Freemover-Scholarship for a year abroad at Université Victor Segalen Bordeaux II, France, German Academic Exchange Service (DAAD)

Teaching, mentoring, outreach

- 2015/2016 Volunteer, Center for Excellence in Youth Education (CEYE), Center for Multicultural & Community Affairs (CMCA), Icahn School of Medicine at Mount Sinai, NY, USA
Lloyd Sherman Scholars Program (2-year science research preparation and enrichment program for young men of color), Day-with-a-Scientist Series, Mentoring in Neuroscience - Discovery at Sinai
- 2013 Teaching assistant, "Introduction to Matlab", Spring School SFB 940, Technische Universität Dresden, Germany
- 2012 Guest lecturer on fMRI alcohol challenge studies, Summer School of the European Graduate School in Addiction Research, Dresden, Germany
- 2011-2015 Mentoring: Daniel Schwarz (medical doctoral thesis, TU Dresden), Zemfira Fechner (research internship, TU Dresden), Federico d'Oleire Uquillas (MA student, Harvard), Nia Williams (MA student, New York University)

Workshops

- 2016 Storytelling in Science Workshop, The Story Collider, New York, USA
- 2010 FENS-IBRO Summer School "Cognition and action: Systems neuroscience approaches to understanding complex behaviour", Dubrovnik, Croatia
- 2007 Spring School "Functional magnetic resonance imaging in psychological research", Bender Institute of Neuroimaging, Justus-Liebig Universität Giessen, Germany

Professional activities

- 2016 Reviewer for: *Journal of Neuroscience, Social Cognitive and Affective Neuroscience, Cognitive, Affective, & Behavioral Neuroscience, Alcohol and Alcoholism*
- since 2015 Member of the Society for Neuroscience, and the Social and Affective Neuroscience Society
- 2015/2016 Member of the Addiction Club at Mount Sinai, led by Dr. Yasmin Hurd (review article in preparation, "Translating the four Cs in addiction: loss of control, craving, compulsion, continued use")
- 2015/2016 Organizer of the Aggression Club at Mount Sinai, research meetings with animal and human researchers from Mount Sinai, New York University, Fordham University, to discuss translational aspects of aggression research

Professional skills

- Languages: German (*native*), English (*fluent*), French (*fluent*)
- Data analysis: Matlab, SPM8, VBM8, CONN – functional connectivity toolbox, SPSS
- Task programming: Presentation - Neurobehavioral Systems, Eyelink - SR Research
- Design of fMRI alcohol challenge experiments using Computer-assisted alcohol infusion systems

Peer-Reviewed Journal Articles

In preparation and submitted

Calipari E, Chao F, Egervari G, **Gan G**, Obiora I, Smith S, Walker D, Hurd Y. Translating the four Cs in addiction: loss of control, craving, compulsion, continued use. Review article *in preparation for Neuropsychopharmacology*.

Gan G, d'Oleire Uquillas F, Zilverstand A, Parvaz MA, Preston-Campbell RN, Tomasi D, Moeller SJ, Malaker P, Maloney T, Goldstein RZ, Alia-Klein N. Resting-state functional connectivity in human reactive aggression. *In preparation*.

Preston-Campbell RN, Moeller SJ, Parvaz M, **Gan G**, Zilverstand A, Konova A, Woicik P, Goldstein R, Alia-Klein N. Trait anger modulates neural activity underlying emotional arousal. *In revision for PlosOne*.

Published

Gan G, Preston-Campbell RN, Moeller SJ, Steinberg JL, Lane SD, Maloney T, Parvaz MA, Goldstein RZ, Alia-Klein N (2016). Reward versus retaliation - the role of the mesocorticolimbic salience network in human reactive aggression. *Frontiers in Behavioral Neuroscience*, 10, Article 179.

Jünger E, **Gan G**, Mick I, Seipt C, Markovic A, Sommer C, Plawecki MH, O'Connor S, Smolka MN, Zimmermann US (2016). Adolescent women induce lower blood alcohol levels than men in a laboratory alcohol self-administration experiment. *Alcoholism: Clinical and Experimental Research*, 40(8), 1769-1778.

Moeller SJ, Fleming SM, **Gan G**, Zilverstand A, Malaker P, d'Oleire Uquillas F, Schneider KE, Preston-Campbell R, Parvaz MA, Maloney T, Alia-Klein N, Goldstein RZ (2016). Metacognitive impairment in active cocaine use disorder is associated with individual differences in brain structure. *European Neuropsychopharmacology*, 26(4), 653-662.

Gan G, Sterzer P, Marxen M, Zimmermann US, Smolka MN (2015). Neural and behavioral correlates of alcohol-induced aggression under provocation. *Neuropsychopharmacology*, 40(13), 2886-2896.

Müller KU, **Gan G**, Banaschewski T, Barker GJ, Bokde ALW, Büchel C, Conrod P, Fauth-Bühler M, Flor H, Gallinat J, Garavan H, Gowland P, Heinz A, Lawrence C, Loth E, Mann K, Martinot JL, Nees F, Paus T, Pausova Z, Rietschel M, Ströhle A, Struve M, Ittermann B, Schumann G, Smolka MN & the IMAGEN Consortium (2015). No difference in ventral striatum responsivity between adolescents with a positive family history of alcoholism and controls. *Addiction Biology*, 20(3): 534-545.

Marxen M, **Gan G**, Schwarz D, Mennigen E, Pilhatsch M, Zimmermann US, Guenther M, Smolka MN (2014). Acute effects of alcohol on brain perfusion monitored with arterial spin labeling magnetic resonance imaging in young adults. *Journal of Cerebral Blood Flow and Metabolism*, 34(3), 472-479.

Gan G, Guevara A, Marxen M, Neumann M, Jünger E, Kobiella A, Mennigen E, Pilhatsch M, Schwarz D, Zimmermann US, Smolka MN (2014). Alcohol-induced impairment of inhibitory control is linked to attenuated brain responses in right fronto-temporal cortex. *Biological Psychiatry*, 76(9), 698-707. **Article highlighted by Alain Dagher in a commentary of the same issue.**

Whelan R, Watts R, Orr C, Althoff R, Artiges E, Banaschewski T, Barker GJ, Bokde ALW, Büchel C, Carvalho FM, Conrod P, Flor H, Fauth-Bühler M, Frouin V, Gallinat J, **Gan G**, Gowland P, Heinz A, Ittermann B, Lawrence C, Mann K, Martinot JL, Nees F, Ortiz N, Paillère-Martinot ML, Paus T, Pausova Z, Rietschel M, Robbins TW, Smolka MN, Ströhle A, Schumann G, Garavan H & the IMAGEN Consortium (2014). Neuropsychosocial profiles of current and future adolescent alcohol misusers. *Nature*, 512(7513), 185-189.

Gan G, Büchel C, Isel F (2013). Effect of language task demands on the neural response during lexical access: a functional magnetic resonance imaging study, *Brain and Behavior*, 3(4), 402-416.

Conference Presentations

Bachi K, Parvaz MA, **Gan G**, Moeller SJ, Alia-Klein N, Goldstein RZ. Reduced orbitofrontal cortex structural integrity in cocaine addiction is associated with childhood sexual abuse and adult stress reactivity. *Poster*, Social and Affective Neuroscience Society Annual Meeting, New York, April 2016.

Gan G, d'Oleire Uquillas F, Zilverstand A, Parvaz MA, Preston-Campbell RN, Tomasi D, Moeller SJ, Malaker P, Maloney T, Goldstein RZ, Alia-Klein N. Resting-state functional connectivity in human reactive aggression. *Poster*, Social and Affective Neuroscience Society Annual Meeting, New York, April 2016.

- Gan G**, Preston-Campbell RN, Steinberg JL, Lane SD, Maloney T, Parvaz MA, Moeller SJ, Goldstein RZ, Alia-Klein N. Reward wins – Increased activation of the mesocorticostratial salience network in human reactive aggression. *Oral presentation*, Society for Neuroscience, 45th Annual Meeting, Chicago, October 2015.
- Zilverstand A, Kundu P, Moeller SJ, **Gan G**, Preston-Campbell R, d'Oleire Uquillas F, Maloney T, Alia-Klein N, Goldstein RZ. Disruption of Cognitive Control in Cocaine Addiction: Evidence from a Resting State Connectome Analysis. *Poster*, Society for Neuroscience, 45th Annual Meeting, Chicago, October 2015.
- d'Oleire Uquillas F, **Gan G**, Zilverstand A, Parvaz MA, Preston-Campbell R, Tomasi D, Moeller SJ, Malaker P, Maloney T, Goldstein RZ, Alia-Klein N. Local network differences in reactive aggression measured with resting-state fMRI and graph theory. *Poster*, Society for Neuroscience, 45th Annual Meeting, Chicago, October 2015.
- Moeller SJ, Fleming SM, **Gan G**, Zilverstand A, Malaker P, d'Oleire Uquillas F, Schneider KE, Preston-Campbell R, Parvaz MA, Maloney T, Alia-Klein N, Goldstein RZ. Metacognitive accuracy impairment in drug addiction is related to individual differences in brain structure. *Poster*, Society for Biological Psychiatry. 70th Annual Meeting, Toronto, Canada, May 2015.
- Gan G**, Preston-Campbell RN, Steinberg JL, Lane SD, Maloney T, Parvaz MA, Moeller SJ, Goldstein RZ, Alia-Klein N. Reward versus Retaliation and the Hyperactive Mesocorticostratial Salience Network. *Poster*, 7th Annual Friedman Brain Institute Neuroscience Retreat, Mount Sinai, New York, May 2015.
- Zilverstand A, Kundu P, Moeller SJ, **Gan G**, Preston-Campbell R, d'Oleire Uquillas F, Maloney T, Alia-Klein N, Goldstein RZ. Disruption of Cognitive Control in Cocaine Addiction: Evidence from a Resting State Connectome Analysis. *Poster*, 7th Annual Friedman Brain Institute Neuroscience Retreat, Mount Sinai, New York, May 2015.
- d'Oleire Uquillas F, **Gan G**, Parvaz MA, Zilverstand A, Preston-Campbell R, Tomasi D, Moeller SJ, Maloney T, Goldstein RZ, Alia-Klein N. Trouble quieting the mind? Resting-state functional connectivity in reactive aggression. *Poster*, 7th Annual Friedman Brain Institute Neuroscience Retreat, Mount Sinai, New York, May 2015.
- Gan G**, Preston-Campbell RN, Steinberg JL, Lane SD, Maloney T, Parvaz MA, Moeller SJ, Goldstein RZ, Alia-Klein N. Trait differences and precuneus involvement in reactive aggression. *Poster*, 1st Annual Symposium Brain Imaging Center, Mount Sinai, New York, October 2014.
- Gan G**, Sterzer P, Zimmermann US, Smolka MN. Neural correlates of alcohol-related aggression are modulated by provocation level. *Poster*, Research Society on Alcoholism, 37th Annual Meeting, Bellevue, June 2014.
- Gan G**, Sterzer P, Zimmermann US, Smolka MN. Neural correlates of alcohol-related aggression are modulated by provocation level. *Poster*, Human Brain Mapping, 20th Annual Meeting, Hamburg, June 2014.
- Gan G**, Sterzer P, Marxen M, Zimmermann US, Smolka MN. Neural correlates of alcohol-related aggression are modulated by provocation. *Poster*, Society for Biological Psychiatry, 69th Annual Meeting, New York, May 2014.
- Smolka MN, Sterzer P, **Gan G**. Neural correlates of alcohol-induced aggression. *Poster*, Society for Neuroscience, 43rd Annual Meeting, San Diego, November 2013.
- Gan G**, Sterzer P, Marxen M, Mennigen E, Pilhatsch M, Schwarz D, Zimmermann US, Smolka MN. Evidence for alcohol effects on reactive aggression in a repeated-measures design. *Poster*, Research Society on Alcoholism, 36th Annual Meeting, Orlando, June 2013.
- Jünger E, **Gan G**, Plawecki MH, O'Connor SJ, Smolka MN, Zimmermann US. Family history of alcoholism, laboratory alcohol self-infusion, and real-life drinking at age 18-19. *Poster*, Research Society on Alcoholism, 36th Annual Meeting, Orlando, June 2013.
- Smolka MN, **Gan G**, Mennigen E, Pilhatsch M, Zimmermann US, Marxen M. Effects of alcohol on brain perfusion in young adults. *Poster*, Research Society on Alcoholism, 36th Annual Meeting, Orlando, June 2013.
- Marxen M, **Gan G**, Zimmermann U, Pilhatsch M, Günther M, Smolka MN. Monitoring the Effect of Alcohol on Cerebral Blood Flow using Arterial Spin Labeling. *Poster*, Human Brain Mapping, 19th Annual Meeting, Seattle, June 2013.
- Wuttig F, Kroemer NB, Helbig J, **Gan G**, Kobiella A, Smolka MN. Effects of smoking cessation on neural processing of emotional stimuli. *Poster*, Human Brain Mapping, 19th Annual Meeting, Seattle, June 2013.
- Gan G**, Marxen M, Grabitz M, Mennigen E, Pilhatsch M, Zimmermann C, Smolka MN. Losing control under alcohol: behavioral and neural correlates. *Poster*, Human Brain Mapping, 18th Annual Meeting, Beijing, June 2012.
- Guevara A, Schmidt D, **Gan G**, Krömer N, Zimmermann US, Smolka MN. Alcohol increases attention to recent outcomes and inconsistency in the Iowa Gambling Task. *Poster*, Society for Neuroscience, 42nd Annual Meeting, New Orleans, October 2012.
- Guevara A, Schmidt D, **Gan G**, Zimmermann US, Smolka MN. The role of reinforcement learning models to assess decision-making in the Iowa Gambling Task under the influence of alcohol. *Poster*, Bernstein Conference, München, September 2012.

- Marxen M, **Gan G**, Schwarz D, Pilhatsch M, Zimmermann US, Guenther M, Smolka MN. Monitoring perfusion during an alcohol infusion using pulsed arterial spin labeling. *Poster*, European Society for Magnetic Resonance in Medicine and Biology, 29th Annual Meeting, Lisbon, October 2012.
- Smolka M, **Gan G**, Marxen M, Grabitz M, Mennigen E, Pilhatsch M, Zimmermann US. Losing control under alcohol: Neural and behavioral correlates. *Poster*, Research Society on Alcoholism, 35th Annual Meeting, San Francisco, June 2012.
- Gan G**, Marxen M, Kobiella A, Zimmermann CM, Pilhatsch M, Mennigen E, Zimmermann US, Smolka MN. Neural correlates of alcohol-induced disinhibition. *Poster*, Research Society on Alcoholism, 34th Annual Meeting, Atlanta, June 2011.
- Marxen M, **Gan G**, Zimmermann CM, Pilhatsch M, Zimmermann US, Guenther M, Smolka MN. Arterial Spin Labeling in Young Adults during Alcohol Infusion. *Poster*, International Society for Magnetic Resonance in Medicine, 19th Annual Meeting, Montreal, May 2011.
- Smolka MN, **Gan G**, Marxen M, Kobiella A, Zimmermann CM, Pilhatsch M, Mennigen E, Zimmermann US. Neural correlates of alcohol-induced disinhibition. *Poster*, Human Brain Mapping, 17th Annual Meeting, Quebec, June 2011.
- Smolka MN, **Gan G**, Zimmermann CM, Pilhatsch M, Mennigen E, Zimmermann US, Guenther M, Marxen M. Effects of alcohol on brain perfusion in young adults. *Poster*, Research Society on Alcoholism, 34th Annual Meeting, Atlanta, June 2011.
- Gan G**, Zimmermann US, Smolka MN. Acute alcohol administration and its behavioural as well as neural effects on impulsivity in young adults. *Poster*, Federation of European Neuroscience Societies & the International Brain Research Organization, Summer School, Dubrovnik, June 2010.
- Gan G**, Jacob M, Marxen M, Sterzer P, Zimmermann US, Smolka MN. Neural correlates of alcohol-induced reactive aggression in young adults. *Poster*, Charité Conference on Psychiatric Research: Emotional Neuroscience, Berlin, August 2010.
- Gan G**, Büchel C, Isel F. Effect of language task demands on the neuronal response during visual word recognition: A functional magnetic resonance imaging (fMRI) priming study. *Poster*, Cognitive Neuroscience Society Annual Meeting, 15th Annual Meeting, San Francisco, April 2008.
- Gan G**, Jansen-Osmann P, Heil M. Die Untersuchung der reinen Einfügung einer mentalen Rotationsaufgabe bei Kindern und Erwachsenen (Examination of pure insertion during mental rotation in children and adults). *Poster*, 48. Tagung experimentell arbeitender Psychologen, Mainz, Germany, March 2006.