

Re: Query publication

From: helmy.m@protonmail.com <helmy.m@protonmail.com>

To: Editorial Office <editorial.office@frontiersin.org>

CC: Frontiers in Behavioral Neuroscience - Peer Review <behavioralneuroscience.editorial.office@frontier...
behavioralneuroscience@frontiersin.org <behavioralneuroscience@frontiersin.org>
njcsousa@med.uminho.pt <njcsousa@med.uminho.pt>
nuno.sousa@pathena.com <nuno.sousa@pathena.com>

BCC: Ivan Oransky <ivan-oransky@erols.com>
Retraction Watch <team@retractionwatch.com>
retractionwatchteam@gmail.com <retractionwatchteam@gmail.com>

Date: Monday, March 29th, 2021 at 12:57 PM

Regarding the article Bhaskar et al., 2018 published in *Frontiers in Behavioral Neuroscience, Emotion Regulation and Processing* titled 'Enriched Environment Facilitates Anxiolytic Efficacy Driven by Deep-Brain Stimulation of Medial Prefrontal Cortex' by Yamini Bhaskar, Lee Wei Lim, and Rupshi Mitra, please see past correspondence below.

I believe it is unethical to publicly comment on an ongoing-investigation. However, if the investigation is closed or there is no response by the authors during a reasonable period of time and no expression of concern was made on the article, as well as review of the editorial practice handling the same, then it is my duty to the academic community to raise the issue in the public domain. Please let me know the status of the current investigation.

I look forward to your reply.

Kind regards,
Mohamed Helmy
MD, PhD

www.nanyangscandal.com
helmy.m@protonmail.com
+65 83 555 815
10 Jurong Lake Link, #15-39
Singapore 648131

----- Original Message -----

On Monday, February 15, 2021 3:34 AM, Helmy, M. <helmy.m@protonmail.com> wrote:

Dear William,

I was wondering if you had time to consider my message below?

Kind regards,
Mohamed Helmy
MD, PhD

helmy.m@protonmail.com
+65 83 555 815
10 Jurong Lake Link, #15-39
Singapore 648131

----- Original Message -----

On Monday, January 25, 2021 2:24 PM, Helmy, M. <helmy.m@protonmail.com> wrote:

Dear William,

My apologies for the delay in replying.

Please call me Helmy. Too many Mohameds.

I do not think there is anything honest about the findings in Bhaskar et al. (2018). Please find attached *MOE2.pdf*, a report I sent to Singapore Ministry of Education collating evidence of putative systemic misconduct in Singapore institutions of research and higher education, perpetrated by Rupshi Mitra and others. As the details of misconduct are discussed under several titles in Part II of the *MOE2.pdf*, please search for 'Bhaskar' in the document and have a look, for example, at what Lee Wei Lim has produced, duplication methods used by Rupshi Mitra and Ajai Vyas, plagiarized doctoral theses, and so on.

Sorry there is no more succinct way to communicate the honesty in Bhaskar et al. 2018 and I spend an inordinate amount of time fighting off daily harassment and attempts to evict me, among other procedural absurdities. Please note I did first *speak* with my superiors at Nanyang Technological University, and was told to make a report against Rupshi Mitra for her ordering me to butcher dozens of genetically modified (producing tau protein, which she would not tell me about) and aged animals for no reason, or have my employment contract terminated. I was then told by the Research Integrity Officer, Prof Roderick Wayland Bates, to make a report of Rupshi's misconduct *in publications*. Then my employment contract was terminated anyways. And off-campus it has been....Kafkaesque.

Kind regards,
Mohamed Helmy
MD, PhD

helmy.m@protonmail.com
+65 83 555 815
10 Jurong Lake Link, #15-39
Singapore 648131

----- Original Message -----

On Wednesday, January 20, 2021 7:42 PM, Editorial Office <editorial.office@frontiersin.org> wrote:

Dear Mohamed,

Many thanks for your patience regarding this matter. We have experienced some delays after returning from our winter break but please be assured we are working to address this as swiftly as possible.

Whilst I can confirm that I will pass on the comments regarding the peer review process to our Review Operations team for investigation, please can I clarify the nature of the preceding five comments? Specifically, please clarify whether you feel that the findings described in Bhaskar et al. 2018 are unreliable through misconduct or honest error, or whether the paper reports unethical research, and provide your reasoning. If you are able to pass on any specific concerns, we would be happy to investigate this further.

If you do not have specific concerns to the effects described above, we would invite you to get in touch with the authors themselves if you have any general questions regarding the paper. The contact information for the corresponding author, Rusphi Mitra, is available at the foot of the article itself, available at <https://www.frontiersin.org/articles/10.3389/fnbeh.2018.00204/full>.

Please do not hesitate to contact me if you have any queries,

Best regards,

William Coleman
Research Integrity Manager

Head of Research Integrity: [Elena Vicario](#), PhD

Frontiers | London Office
12 Moorgate
EC2R 6DA
London, UK
Office T +44 203 514 26 98

Now more than ever, open and rapid access to the latest scientific results are paramount in these unprecedented times of the COVID-19 pandemic. As we all work with our communities to mitigate its impact, we are continuing Frontiers publishing services and our support to researchers in disseminating their work. Please visit our [Coronavirus Knowledge Hub](#) to find out about the initiatives from scientists around the world.

On Tue, Dec 29, 2020 at 4:51 PM Editorial Office <editorial.office@frontiersin.org> wrote:

Dear Mohamed,

Thank you for your email.

Please be assured that we are looking into this and we will get back to you with an update as soon as possible.

Please be aware that this may take longer than usual due to the holiday period.

Best regards,

William Coleman
Research Integrity Manager

Senior Manager, Research Integrity: [Elena Vicario](#), PhD

Frontiers | London Office
12 Moorgate
EC2R 6DA
London, UK
Office T +44 203 514 26 98

Now more than ever, open and rapid access to the latest scientific results are paramount in these unprecedented times of the COVID-19 pandemic. As we all work with our communities to mitigate its impact, we are continuing Frontiers publishing services and our support to researchers in disseminating their work. Please visit our [Coronavirus Knowledge Hub](#) to find out about the initiatives from scientists around the world.

On Thu, Dec 17, 2020 at 3:00 AM Helmy, M. <helmy.m@protonmail.com> wrote:

Dear Professor Sousa,

There are irregularities in the article Bhaskar et al., 2018 published in *Frontiers in Behavioral Neuroscience, Emotion Regulation and Processing* titled 'Enriched Environment Facilitates Anxiolytic Efficacy Driven by Deep-Brain Stimulation of Medial Prefrontal Cortex' by Yamini Bhaskar, Lee Wei Lim, and Rupshi Mitra, namely:

1. Electrodes were not implanted into ventromedial prefrontal cortex (vmPFC) according to the coordinates stated. The deviation from published coordinates for vmPFC in animals of comparable age and weight is big (see for example Almeida-Santos et al., 2017; Chang et al., 2014; Coutureau et al., 2012; Hamani et al., 2014; Hamani et al., 2012; Hill et al., 2018; Papp et al., 2019; Torres-Sanchez et al., 2018). The same coordinates were used in the article produced at Nanyang Technological University and co-authored by Lee Wei Lim, Ajai Vyas and others (Liu et al., 2015). However, other articles by Lee Wei Lim not produced at Nanyang Technological University use the same or slightly different coordinates to target regions alternately referred to as vmPFC or prelimbic cortex (Huguet et al., 2017; Janssen et al., 2015; Lim et al., 2015a; Lim et al., 2015b; Tan et al., 2019; for comparison see for example Fucich et al., 2018; Luque-García et al., 2018; Reznikov et al., 2018; Scarlata et al., 2019; Sotres-Bayon et al., 2009; Tsutsui-Kimura et al., 2013). Literature stated as the source for coordinates in Bhaskar et al. 2018 (namely Lim et al., 2015b; Tan et al., 2010) is unrelated to vmPFC. **May the coordinates used to putatively target vmPFC in Bhaskar et al. 2018 be justified?**

2. The stimulation protocol for deep brain stimulation in Bhaskar et al. 2018 is vague, electronic parameters are lacking (see for example Schor and Nelson, 2019). The protocol cannot be replicated as described. Lee Wei Lim himself emphasizes the importance of these parameters, methodologically and physiologically, in other publications (Heng et al., 2016; Heschem et al., 2013a; Heschem et al., 2013b; Tan et al., 2020). What paradigm is reported in Bhaskar et al. 2018 is in physiological contradiction as part of an effective protocol and as recommended in reviews co-authored by Lee Wei Lim (*ibid*). Given that one of the reviews in which Lee Wei Lim is co-author was heavily criticized by others for many, huge, and indefensible errors (Páll et al., 2017), **may the stimulation protocol in Bhaskar et al. 2018 be specified?**

3. **How was exploration assessed in the object recognition task?** For example, was software used or were the analyses done manually? For any method, what were the cut-off or readout parameters for exploratory behavior?

4. Work in Bhaskar et al., 2018 was funded by "...Ministry of Education, Singapore (#RG 46/12) to RM...". However, in the similar work and article published by Lee Wei Lim elsewhere, Liu et al., 2015, only "...the Singapore Lee Kuan Yew Research Fellowship (M4080846.080) that awarded to LWL..." is acknowledged. **May Lee Wei Lim's funding be clarified?**

5. Due to the similarities between Bhaskar et al., 2018 and Liu et al., 2015, but differences in that, for example, BrdU was administered and Morris water maze was reportedly tested in the latter, and differences in stimulation protocol, **may the Animal Use Protocol for Bhaskar et al. 2018 be stated so as to differentiate putative differences in that dataset with the one in Liu et al., 2015?**

6. The article was reviewed by two reviewers who are co-authors from the same institute (Du and Hill, 2015, 2016, 2019; Du et al., 2019; Du et al., 2018; Du et al., 2014; Grech et al., 2019; Hill et al., 2020; McCarthy et al., 2018; Nakamura et al., 2019; Notaras et al., 2017; Schroeder et al., 2017; Schroeder et al., 2019; Schroeder et al., 2018; Wu et al., 2014; Wu et al., 2015). The editor of the article is a co-author of both reviewers (Du et al., 2012; Du et al., 2013; Hill et al., 2014; Howard et al., 2012; Kiriazis et al., 2012; Klug et al., 2012; Pang et al.,

2013a; Pang et al., 2013b; Pang et al., 2009; Renoir et al., 2012; Renoir et al., 2011). This may not be in line with *Frontiers Associate Editor Guidelines*, and is not in line with *Frontiers* recommendations to bring diversity and transparency to editorial practice and the peer-review process. **May the peer-review process for Bhaskar et. al. 2018 be reviewed?**

Kind regards,

Mohamed Helmy
MD, PhD

helmy.m@protonmail.com
+65 83 555 815
10 Jurong Lake Link, #15-39
Singapore 648131

REFERNCES

- Almeida-Santos, A.F., Moreira, F.A., Guimaraes, F.S., and Aguiar, D.C. (2017). 2-Arachidonoylglycerol endocannabinoid signaling coupled to metabotropic glutamate receptor type-5 modulates anxiety-like behavior in the rat ventromedial prefrontal cortex. *Journal of Psychopharmacology* **31**(6), 740-749. doi:10.1177/0269881117704986
- Bhaskar, Y., Lim, L.W., and Mitra, R. (2018). Enriched Environment Facilitates Anxiolytic Efficacy Driven by Deep-Brain Stimulation of Medial Prefrontal Cortex. *Frontiers in behavioral neuroscience* **12**(204). doi:10.3389/fnbeh.2018.00204
- Chang, C.H., Chen, M.C., Qiu, M.H., and Lu, J. (2014). Ventromedial prefrontal cortex regulates depressive-like behavior and rapid eye movement sleep in the rat. *Neuropharmacology* **86**,125-132. doi:10.1016/j.neuropharm.2014.07.005
- Coutureau, E., Esclassan, F., Di Scala, G., and Marchand, A.R. (2012). The Role of the Rat Medial Prefrontal Cortex in Adapting to Changes in Instrumental Contingency. *PLOS ONE* **7**(4), e33302. doi:10.1371/journal.pone.0033302
- Du, X., and Hill, R.A. (2015). 7,8-Dihydroxyflavone as a pro-neurotrophic treatment for neurodevelopmental disorders. *Neurochemistry International* **89**, 170-180. doi:10.1016/j.neuint.2015.07.021
- Du, X., and Hill, R.A. (2016). The Potential of Gonadal Hormone Signalling Pathways as Therapeutics for Dementia. *Journal of Molecular Neuroscience* **60**(3), 336-348. doi:10.1007/s12031-016-0813-9
- Du, X., and Hill, R.A. (2019). Hypothalamic-pituitary-gonadal axis dysfunction: An innate pathophysiology of schizophrenia? *General and Comparative Endocrinology* **275**, 38-43. doi:10.1016/j.ygcen.2019.02.009
- Du, X., Leang, L., Mustafa, T., Renoir, T., Pang, T.Y., and Hannan, A.J. (2012). Environmental enrichment rescues female-specific hyperactivity of the hypothalamic-pituitary-adrenal axis in a model of Huntington's disease. *Translational Psychiatry* **2**(7), e133-e133. doi:10.1038/tp.2012.58
- Du, X., McCarthy, C.R., Notaras, M., van den Buuse, M., and Hill, R.A. (2019). Effect of adolescent androgen manipulation on psychosis-like behaviour in adulthood in BDNF heterozygous and control mice. *Hormones and Behavior* **112**, 32-41. doi:10.1016/j.yhbeh.2019.03.005
- Du, X., Pang, T., and Hannan, A. (2013). A Tale of Two Maladies? Pathogenesis of Depression with and without the Huntington's Disease Gene Mutation. *Frontiers in Neurology* **4**(81). doi:10.3389/fneur.2013.00081

- Du, X., Serena, K., Hwang, W.J., Grech, A.M., Wu, Y.W.C., Schroeder, A., and Hill, R.A. (2018). Prefrontal cortical parvalbumin and somatostatin expression and cell density increase during adolescence and are modified by BDNF and sex. *Molecular and Cellular Neuroscience* **88**, 177-188. doi:[10.1016/j.mcn.2018.02.001](https://doi.org/10.1016/j.mcn.2018.02.001)
- Du, X., Wu, Y.C., and Hill, R.A. (2014). BDNF–TrkB signaling as a therapeutic target in neuropsychiatric disorders. *Journal of Receptor, Ligand and Channel Research* **7**, 61-79. doi:10.2147/JRLCR.S50404
- Fucich, E.A., Paredes, D., Saunders, M.O., and Morilak, D.A. (2018). Activity in the Ventral Medial Prefrontal Cortex Is Necessary for the Therapeutic Effects of Extinction in Rats. *The Journal of Neuroscience* **38**(6), 1408-1417. doi:10.1523/jneurosci.0635-17.2017
- Grech, A.M., Du, X., Murray, S.S., Xiao, J., and Hill, R.A. (2019). Sex-specific spatial memory deficits in mice with a conditional TrkB deletion on parvalbumin interneurons. *Behavioural Brain Research* **372**, 111984. doi:[10.1016/j.bbr.2019.111984](https://doi.org/10.1016/j.bbr.2019.111984)
- Hamani, C., Amorim, B.O., Wheeler, A.L., Diwan, M., Driesslein, K., Covolan, L., Butson, C.R., and Nobrega, J.N. (2014). Deep brain stimulation in rats: different targets induce similar antidepressant-like effects but influence different circuits. *Neurobiology of disease* **71**, 205-214. doi:10.1016/j.nbd.2014.08.007
- Hamani, C., Machado, D.C., Hipólido, D.C., Dubiela, F.P., Suchecki, D., Macedo, C.E., Tescarollo, F., Martins, U., Covolan, L., and Nobrega, J.N. (2012). Deep brain stimulation reverses anhedonic-like behavior in a chronic model of depression: role of serotonin and brain derived neurotrophic factor. *Biological psychiatry* **71**(1), 30-35. doi:10.1016/j.biopsych.2011.08.025
- Heng, B.C., Lim, L.W., Wu, W., and Zhang, C. (2016). An overview of protocols for the neural induction of dental and oral stem cells in vitro. *Tissue Engineering Part B: Reviews* **22**(3), 220-250. doi:10.1089/ten.teb.2015.0488
- Hescham, S., Lim, L.W., Jahanshahi, A., Blokland, A., and Temel, Y. (2013a). Deep brain stimulation in dementia-related disorders. *Neuroscience & Biobehavioral Reviews* **37**(10, Part 2), 2666-2675. doi:[10.1016/j.neubiorev.2013.09.002](https://doi.org/10.1016/j.neubiorev.2013.09.002)
- Hescham, S., Lim, L.W., Jahanshahi, A., Steinbusch, H.W., Prickaerts, J., Blokland, A., and Temel, Y. (2013b). Deep brain stimulation of the forniceal area enhances memory functions in experimental dementia: the role of stimulation parameters. *Brain stimulation* **6**(1), 72-77. doi:10.1016/j.brs.2012.01.008
- Hill, D.F., Parent, K.L., Atcherley, C.W., Cowen, S.L., and Heien, M.L. (2018). Differential release of dopamine in the nucleus accumbens evoked by low-versus high-frequency medial prefrontal cortex stimulation. *Brain stimulation* **11**(2), 426-434. doi:10.1016/j.brs.2017.11.010
- Hill, R., Kouremenos, K., Tull, D., Maggi, A., Schroeder, A., Gibbons, A., Kulkarni, J., Sundram, S., and Du, X. (2020). Bazedoxifene—a promising brain active SERM that crosses the blood brain barrier and enhances spatial memory. *Psychoneuroendocrinology*, 104830. doi:10.1016/j.psyneuen.2020.104830
- Hill, R.A., Klug, M., Kiss Von Soly, S., Binder, M.D., Hannan, A.J., and van den Buuse, M. (2014). Sex-specific disruptions in spatial memory and anhedonia in a “two hit” rat model correspond with alterations in hippocampal brain-derived neurotrophic factor expression and signaling. *Hippocampus* **24**(10), 1197-1211. doi:10.1002/hipo.22302
- Howard, M.L., Palmer, S.J., Taylor, K.M., Arthurson, G.J., Spitzer, M.W., Du, X., Pang, T.Y., Renoir, T., Hardeman, E.C., and Hannan, A.J. (2012). Mutation of Gtf2ird1 from the Williams–Beuren syndrome critical region results in facial dysplasia, motor dysfunction, and altered vocalisations. *Neurobiology of disease* **45**(3), 913-922. doi:10.1016/j.nbd.2011.12.010

- Huguet, G., Kadar, E., Temel, Y., and Lim, L.W. (2017). Electrical stimulation normalizes c-Fos expression in the deep cerebellar nuclei of depressive-like rats: implication of antidepressant activity. *The Cerebellum* **16**(2), 398-410. doi:10.1007/s12311-016-0812-y
- Janssen, M., Lim, L., Kocabicak, E., and Temel, Y. (2015). Chapter 4: The antidepressant effects of ventromedial prefrontal cortex is associated with neural activation in the medial part of the subthalamic nucleus. *Doctoral thesis? Selective stimulation of the subthalamic nucleus in Parkinson's disease*, 73.
- Kiriazis, H., Jennings, N.L., Davern, P., Lambert, G., Su, Y., Pang, T., Du, X., La Greca, L., Head, G.A., Hannan, A.J., et al. (2012). Neurocardiac dysregulation and neurogenic arrhythmias in a transgenic mouse model of Huntington's disease. *The Journal of Physiology* **590**(22), 5845-5860. doi:10.1113/jphysiol.2012.238113
- Klug, M., Hill, R.A., Choy, K.H.C., Kyrios, M., Hannan, A.J., and van den Buuse, M. (2012). Long-term behavioral and NMDA receptor effects of young-adult corticosterone treatment in BDNF heterozygous mice. *Neurobiology of disease* **46**(3), 722-731. doi:10.1016/j.nbd.2012.03.015
- Lim, L.W., Janssen, M.L.F., Kocabicak, E., and Temel, Y. (2015a). The antidepressant effects of ventromedial prefrontal cortex stimulation is associated with neural activation in the medial part of the subthalamic nucleus. *Behavioural Brain Research* **279**, 17-21. doi:[10.1016/j.bbr.2014.11.008](https://doi.org/10.1016/j.bbr.2014.11.008)
- Lim, L.W., Prickaerts, J., Huguet, G., Kadar, E., Hartung, H., Sharp, T., and Temel, Y. (2015b). Electrical stimulation alleviates depressive-like behaviors of rats: investigation of brain targets and potential mechanisms. *Translational Psychiatry* **5**(3), e535-e535. doi:10.1038/tp.2015.24
- Liu, A., Jain, N., Vyas, A., and Lim, L.W. (2015). Ventromedial prefrontal cortex stimulation enhances memory and hippocampal neurogenesis in the middle-aged rats. *Elife* **4**, e04803. doi:10.7554/eLife.04803
- Luque-García, A., Teruel-Martí, V., Martínez-Bellver, S., Adell, A., Cervera-Ferri, A., and Martínez-Ricós, J. (2018). Neural oscillations in the infralimbic cortex after electrical stimulation of the amygdala. Relevance to acute stress processing. *Journal of Comparative Neurology* **526**(8), 1403-1416. doi:10.1002/cne.24416
- McCarthy, C.R., Du, X., Wu, Y.C., and Hill, R.A. (2018). Investigating the Interactive Effects of Sex Steroid Hormones and Brain-Derived Neurotrophic Factor during Adolescence on Hippocampal NMDA Receptor Expression. *International Journal of Endocrinology* **2018**, 7231915. doi:10.1155/2018/7231915
- Nakamura, J.P., Schroeder, A., Hudson, M., Jones, N., Gillespie, B., Du, X., Notaras, M., Swaminathan, V., Reay, W.R., Atkins, J.R., et al. (2019). The maternal immune activation model uncovers a role for the Arx gene in GABAergic dysfunction in schizophrenia. *Brain, Behavior, and Immunity* **81**(161-171). doi:[10.1016/j.bbi.2019.06.009](https://doi.org/10.1016/j.bbi.2019.06.009)
- Notaras, M., Du, X., Gogos, J., van den Buuse, M., and Hill, R.A. (2017). The BDNF Val66Met polymorphism regulates glucocorticoid-induced corticohippocampal remodeling and behavioral despair. *Translational Psychiatry* **7**(9), e1233-e1233. doi:10.1038/tp.2017.205
- Páll, O., Varga, B., Collart-Dutilleul, P.-Y., Gergely, C., and Cuisinier, F.J.G. (2017). Re:"An Overview of Protocols for the Neural Induction of Dental and Oral Stem Cells In Vitro" by Heng et al.(Tissue Eng Part B 2016; 22: 220-250). *Tissue Engineering Part B: Reviews* **23**(6), 570-576. doi:10.1089/ten.teb.2016.0512
- Pang, T., Du, X., Catchlove, W., Renoir, T., Lawrence, A., and Hannan, A. (2013a). Positive environmental modification of depressive phenotype and abnormal hypothalamic-pituitary-adrenal axis activity in female C57BL/6J mice during abstinence from chronic ethanol consumption. *Frontiers in Pharmacology* **4**(93). doi:10.3389/fphar.2013.00093

- Pang, T.Y., Renoir, T., Du, X., Lawrence, A.J., and Hannan, A.J. (2013b). Depression-related behaviours displayed by female C57BL/6J mice during abstinence from chronic ethanol consumption are rescued by wheel-running. *European Journal of Neuroscience* **37**(11), 1803-1810. doi:10.1111/ejn.12195
- Pang, T.Y.C., Du, X., Zajac, M.S., Howard, M.L., and Hannan, A.J. (2009). Altered serotonin receptor expression is associated with depression-related behavior in the R6/1 transgenic mouse model of Huntington's disease. *Human Molecular Genetics* **18**(4), 753-766. doi:10.1093/hmg/ddn385
- Papp, M., Gruca, P., Lason, M., Niemczyk, M., and Willner, P. (2019). The role of prefrontal cortex dopamine D2 and D3 receptors in the mechanism of action of venlafaxine and deep brain stimulation in animal models of treatment-responsive and treatment-resistant depression. *Journal of Psychopharmacology* **33**(6), 748-756. doi:10.1177/0269881119827889
- Renoir, T., Pang, T.Y.C., Zajac, M.S., Chan, G., Du, X., Leang, L., Chevarin, C., Lanfumey, L., and Hannan, A.J. (2012). Treatment of depressive-like behaviour in Huntington's disease mice by chronic sertraline and exercise. *British Journal of Pharmacology* **165**(5), 1375-1389. doi:10.1111/j.1476-5381.2011.01567.x
- Renoir, T., Zajac, M.S., Du, X., Pang, T.Y., Leang, L., Chevarin, C., Lanfumey, L., and Hannan, A.J. (2011). Sexually Dimorphic Serotonergic Dysfunction in a Mouse Model of Huntington's Disease and Depression. *PLOS ONE* **6**(7), e22133. doi:10.1371/journal.pone.0022133
- Reznikov, R., Bambico, F.R., Diwan, M., Raymond, R.J., Nashed, M.G., Nobrega, J.N., and Hamani, C. (2018). Prefrontal Cortex Deep Brain Stimulation Improves Fear and Anxiety-Like Behavior and Reduces Basolateral Amygdala Activity in a Preclinical Model of Posttraumatic Stress Disorder. *Neuropsychopharmacology* **43**(5), 1099-1106. doi:10.1038/npp.2017.207
- Scarlata, M.J., Lee, S.H., Lee, D., Kandigian, S.E., Hiller, A.J., Dishart, J.G., Mintz, G.E., Wang, Z., Coste, G.I., Mousley, A.L., et al. (2019). Chemogenetic stimulation of the infralimbic cortex reverses alcohol-induced fear memory overgeneralization. *Scientific Reports* **9**(1), 6730. doi:10.1038/s41598-019-43159-w
- Schor, J.S., and Nelson, A.B. (2019). Multiple stimulation parameters influence efficacy of deep brain stimulation in parkinsonian mice. *The Journal of Clinical Investigation* **129**(9), 3833-3838. doi:10.1172/JCI122390
- Schroeder, A., Hudson, M., Du, X., Wu, Y.W.C., Nakamura, J., van den Buuse, M., Jones, N.C., and Hill, R.A. (2017). Estradiol and raloxifene modulate hippocampal gamma oscillations during a spatial memory task. *Psychoneuroendocrinology* **78**, 85-92. doi:10.1016/j.psyneuen.2017.01.022
- Schroeder, A., Nakamura, J.P., Hudson, M., Jones, N.C., Du, X., Sundram, S., and Hill, R.A. (2019). Raloxifene recovers effects of prenatal immune activation on cognitive task-induced gamma power. *Psychoneuroendocrinology* **110**, 104448. doi:10.1016/j.psyneuen.2019.104448
- Schroeder, A., Notaras, M., Du, X., and Hill, R.A. (2018). On the developmental timing of stress: delineating sex-specific effects of stress across development on adult behavior. *Brain sciences* **8**(7), 121. doi:10.3390/brainsci8070121
- Sotres-Bayon, F., Diaz-Mataix, L., Bush, D.E.A., and LeDoux, J.E. (2009). Dissociable Roles for the Ventromedial Prefrontal Cortex and Amygdala in Fear Extinction: NR2B Contribution. *Cerebral Cortex* **19**(2), 474-482. doi:10.1093/cercor/bhn099
- Tan, S., Poon, C.H., Chan, Y.-S., and Lim, L.W. (2019). Deep brain stimulation of the prelimbic cortex disrupts consolidation of fear memories. *IBRO Reports* **6**(S66). doi:10.1016/j.ibror.2019.07.217

Tan, S.K.H., Vlamings, R., Lim, L., Sesia, T., Janssen, M.L.F., Steinbusch, H.W.M., Visser-Vandewalle, V., and Temel, Y. (2010). Experimental Deep Brain Stimulation in Animal Models. *Neurosurgery* **67**(4), 1073-1080. doi:10.1227/NEU.0b013e3181ee3580

Tan, S.Z.K., Fung, M.-L., Koh, J., Chan, Y.-S., and Lim, L.W. (2020). The Paradoxical Effect of Deep Brain Stimulation on Memory. *Aging and disease* **11**(1), 179-190. doi:10.14336/AD.2019.0511

Torres-Sanchez, S., Perez-Caballero, L., Mico, J.A., Celada, P., and Berrocoso, E. (2018). Effect of Deep Brain Stimulation of the ventromedial prefrontal cortex on the noradrenergic system in rats. *Brain Stimulation* **11**(1), 222-230. doi:10.1016/j.brs.2017.10.003

Tsutsui-Kimura, I., Ohmura, Y., Izumi, T., Kumamoto, H., Yamaguchi, T., Yoshida, T., and Yoshioka, M. (2013). Milnacipran enhances the control of impulsive action by activating D1-like receptors in the infralimbic cortex. *Psychopharmacology* **225**(2), 495-504. doi:10.1007/s00213-012-2835-5

Wu, Y.C., Du, X., Van den Buuse, M., and Hill, R.A. (2014). Sex differences in the adolescent developmental trajectory of parvalbumin interneurons in the hippocampus: a role for estradiol. *Psychoneuroendocrinology* **45**, 167-178. doi:10.1016/j.psyneuen.2014.03.016

Wu, Y.W.C., Du, X., van den Buuse, M., and Hill, R.A. (2015). Analyzing the influence of BDNF heterozygosity on spatial memory response to 17 β -estradiol. *Translational Psychiatry* **5**(1), e498-e498. doi:10.1038/tp.2014.143