



# The 3rd Munich Winter Conference on Stress

A Max Planck Institute of Psychiatry / Weizmann Institute of Science Conference

## Program



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## **Saturday, March 12, 2022**

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**15:00 – 19:00                      Arrival & Registration**

**20:00 – 22:00                      Dinner**

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## **Sunday, March 13, 2022**

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**7:30 – 8:30                      Breakfast**

**8:30 – 10:30                      Session 1: Advances in stress phenotyping: From behavior to circuits**  
Chair: Mathias Schmidt & Alon Chen

**How to use deep learning algorithms to study behavior?**

*Mackenzie Mathis, Switzerland*

**Operant chronic social defeat stress – moving from social interaction to social choice**

*Nastacia Goodwin, USA*

**Automatically annotated motion tracking identifies a distinct social behavioral profile following chronic social defeat stress**

*Joeri Bordes, Germany*

**Multiomic dissection of the acute stress response**

*Johannes Bohacek, Switzerland*

**10:30 – 11:00                      Open debate**

**11:00 – 16:00                      Scientific group discussions / Outdoor activities**

**16:00 – 18:30**

**Session 2: Stress and development**

**Chair: Aniko Korosi**

**Stress and nutrition: overlapping mechanisms in fetal programming of brain development and mental health**

*Francesca Cirulli, Italy*

**Effects of early life adversity on cognition and motivated behavior**

*Debra Bangasser, USA*

**Mechanisms involved in prenatal programming of offspring stress responses & related behaviors**

*Paula Brunton, United Kingdom*

**Stress and the developing brain: a critical role for neuroimmune crosstalk**

*Staci Bilbo, USA*

**Molecular and circuit mechanisms by which early-life adversity impacts reward seeking behaviors are sex-dependent**

*Tallie Z. Baram, USA*

**18:30 – 19:00**

**Open debate**

**20:00 – 22:00**

**Dinner & Poster presentation I**

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## **Monday, March 14, 2022**

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<b>7:30 – 8:30</b>	<b>Breakfast</b>
<b>8:30 – 10:30</b>	<b>Session 3: Sex differences</b> <b>Chair: Jessica Deslauriers</b>  <b>Sex-specific neurovascular alterations underlie stress responses in mice and human depression</b> <i>Caroline Menard, Canada</i>  <b>Sex shapes cell-type-specific transcriptional signatures of stress in the mouse hypothalamic paraventricular nucleus</b> <i>Elena Brivio, Israel</i>  <b>Sex differences in glucocorticoid regulation of striatal dopamine transmission</b> <i>Ashley Holloway, USA</i>  <b>Sex-specific chromatin dynamics in the brain: Implications for anxiety disorders and depression</b> <i>Marija Kundakovic, USA</i>
<b>10:30 – 11:00</b>	<b>Open debate</b>
<b>11:00 – 16:00</b>	<b>Scientific group discussions / Outdoor activities</b>

**16:00 – 18:30**

**Session 4: Mechanisms and circuits of stress**

**Chairs: Jason Radley**

**The resilient brain: hardness or flexibility? An overview of neuroimaging findings in humans**  
*Nic van der Wee, Netherlands*

**Neural signature of stress resilience**

*Marloes Henckens, Netherlands*

**Neural circuits of fear driven actions**

*Oded Klavir, Israel*

**Diverse ensembles in the extended amygdala encode emotional and social behaviors**

*Simon Chang, Germany*

**Increased brain CRF system activity causes bad mothering**

*Oliver Bosch, Germany*

**18:30 – 19:00**

**Open debate**

**20:00 – 22:00**

**Dinner & Poster presentation II**

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## **Tuesday, March 15, 2022**

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**7:30 – 8:30**

**Breakfast**

**8:30 – 10:30**

**Session 5: Autophagy, stress and disease**

**Chair: Nicole Bowles**

**Autophagy in stress-related diseases and interventions**

*Nils Gassen, Germany*

**The role of the acid sphingomyelinase/ceramide system in the pathophysiology of major depression**

*Cosima Rhein, Germany*

**Inflammasome-mediated neurodegeneration is regulated by secretory autophagy**

*Jakob Hartmann, USA*

**FKBP51 on weight watch: chaperoning metabolism through regulatory WIPI protein networks**

*Thomas Bajaj, Germany*

**10:30 – 11:00**

**Open debate**

**11:00 – 16:00**

**Scientific group discussions / Outdoor activities**

**16:00 – 18:30**

**Session 6: Advances understanding stress-related disorders**

**Chair: Carmen Sandi**

**Translational approaches to threat and PTSD, from mice to (wo)men**

*Kerry Ressler, USA*

**Translational evaluation of methyl-CpG binding protein 2 involvement in susceptibility to PTSD**

*Livia Cosentino, Italy*

**Novel glucocorticoid receptor ligands: understanding adaptation and treating stress-related disease**

*Onno Meijer, Netherlands*

**Mechanisms of memory under stress**

*Lars Schwabe, Germany*

**Ketamine exerts antidepressant effects via cell-type specific regulation of Kcnq2**

*Pablo Lopez, Germany*

**18:30 – 19:00**

**Open debate and closing remarks**

**20:00 – 22:00**

**Dinner**

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***Wednesday, March 16, 2022***

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**7:30 – 12:00**

**Breakfast & Departure**

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## **Poster presentations I    Sunday, March 13, 2022**

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*Kfir Asraf, IL*

**A Gene x Environment model of cognitive deficits in glutamate dehydrogenase-deficient mice**

*Arnab Barik, IN*

**A role for lateral septum in stress induced analgesia**

*Asaf Benjamin, IL*

**Wireless recording and inhibition of medial prefrontal cortical neurons using eOPN3 and miniature neural-loggers in groups of freely interacting mice in an ethologically relevant paradigm**

*Laura Boi, DE*

**The involvement of astrocytes in OXT-regulated socio-emotional behaviors: focus on social fear**

*Joeri Bordes, DE*

**Automatically annotated motion tracking identifies a distinct social behavioral profile following chronic social defeat stress**

*Kari Bosch, NL*

**A positive take on depression: The interaction between antidepressants and the environment in the improvement of depressive-like symptoms**

*Nicole Bowles, US*

**The endogenous circadian regulation of cortisol reactivity to stress in humans**

*Luisa Demarchi, DE*

**Loosing the offspring: impact on the mother's brain and behavior in rats**

*Nathalia Carvalho, BR*

**Nociceptive C-fibers are implicated in the social defeat stress (SDS)-induced hyperalgesia**

*Simon Chang, DE*

**Diverse ensembles in the extended amygdala encode emotional and social behaviours**

*Alexander Cook, DE*

**Optogenetic elevation of glucocorticoid levels during development alters behavior and brain transcriptome in adult zebrafish**

*Livia Cosentino, IT*

**Translational evaluation of Methyl-CpG binding protein 2 involvement in susceptibility to PTSD**

*Jessica Deslauriers, CA*

**Susceptibility to psychological trauma: investigating the immune response and BBB integrity in an animal model of PTSD**

*Livia Di Crescenzo, IT*

**5-HT7 receptor stimulation rescues PTSD-like behavioral alterations in a mouse model carrying a truncated form of MECP2**

*Moisés dos Santos Corrêa, BR*

**Post-training CFC mifepristone infusion in mPFC elicits faster corticosterone recovery and promotes recent fear generalization**

*Sian Duss, CH*

**The impact of stress related locus coeruleus firing patterns on brain circuits**

*Joana Cruz Pereira, IE*

**'Does prebiotic supplementation modulate stress response in aged mice?**

*Federica Fermani, DE*

**A role for neurons in the lateral and medial divisions of the central amygdala in appetitive behaviours**

*Jorine Geertsema, NL*

**The modulatory effect of early dietary supplementation with polyphenols on the early-life stress-induced cognitive and brain plasticity alterations in male mice**

*Cassandra Gheorghe, IE*

**Exercise and Stress-related Biomarkers: a gut-brain axis perspective**

*Lior Givon, IL*

**Understanding the interplay between dopamine, fear, anxiety and the stereotypic behavior of grooming in DAT-Cre mice**

*Katharina Gryksa, DE*

**Chronic psychosocial stress aggravates social fear conditioning: The role of the immune system**

*Shlomi Habusha, IL*

**The effect of fear on the Cortical-Limbic-Striatal circuitry in action selection**

*Samantha Haque, UK*

**Critical role of the mineralocorticoid receptor in differentiation of human foetal neural progenitor cells**

*Marene Hardonk, NL*

**Mapping ΔFosB expression levels in stress- and reward-related brain areas following 28 days of voluntary wheel running in rats**

*Ashley Holloway, US*

**Sex differences in glucocorticoid regulation of striatal dopamine transmission**

*Stoyo Karamihalev, DE*

**Deep, automated phenotyping adds social context to individual behavior and physiology**

*Janssen Kotah, NL*

**Investigating early-life stress effects on the hippocampal neuroimmune system: Focus on response to secondary challenges**

*Veronika Kovarova, DE*

**The impact of atg7 and FKBP51 in MBH on behavior and metabolism**

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## **Poster presentations II    Monday, March 14, 2022**

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*Adam Lannon, IE*

**Exploring secondary traumatic stress; a novel model to understand the social transmission of pain**

*Sarah-Jane Leigh, IE*

**The role of the gut microbiota in acute stress-induced alterations in gut metabolome**

*Louisa Linders, NL*

**Stress-driven potentiation of hypothalamic synapses onto ventral tegmental area dopamine neurons causes increased consumption of palatable food**

*Rohit Menon, DE*

**HDAC1 mediated regulation of GABA-A signaling regulates long-term extinction of social fear**

*Patricia Molina, ES*

**Identification and characterisation of stressor-specific neuronal ensembles in rat medial prefrontal cortex**

*Karen Mifsud, UK*

**Glucocorticoid action in the brain: New data, new concepts**

*Eva Mikics, HU*

**Cognitive vulnerability factors in post-traumatic stress disorder**

*Shiladitya Mitra, DE*

**Absence of FKBP5 in murine microglial cells attenuates response to LPS stimulation**

*Sowmya Narayan, DE*

**Understanding effects of developmental stress exposure on adulthood vulnerability to stress in a mouse model, with a focus on translational relevance**

*Marco Pagliusi Jr., BR*

**Chemogenetic activation of the descending pain pathway blocks social defeat stress outcomes**

*Marina Paunero Quezadas, MX*

**Brain Derived Neurotrophic Factor expression in patients with PTSD due to sexual trauma**

*Eleonora Riccardi, IT*

**Behavioral correlates of fear memory in a rat model for PTSD: ultrasonic vocalizations and sex differences**

*Danai Riga, NL*

**Neuropeptide Y in stress and anxiety: a novel role for an old ally**

*Amy Ritter, IL*

**The neural circuit of enhanced post-traumatic threat detection**

*Silvie Ruigrok, CH*

**The neurometabolic underpinnings of social rank – is there a role for accumbal sirtuin 1?**

*Jeniffer Sanguino Gómez, NL*

**Machine learning approaches further characterize early-life stress traits during fear conditioning: from engrams to behavior**

*Alice Sanson, DE*

**Neuropeptides' alterations in nucleus accumbens shell: effects on maternal aggression and care**

*Yair Shemesh, IL*

**Territorial aggression is mediated via two parallel neuropeptide pathways**

*Theresa Süß, DE*

**Neurocircuitry of social fear extinction - involvement of the septal oxytocin system?**

*Gabriel Tofani, IE*

**Gut microbiota modulate the circadian oscillations of the HPA-axis with time-of-day dependent effects on the stress response**

*Mate Toth, HU*

**Neurochemically distinct populations of the bed nucleus of stria terminalis modulate innate fear response to weak threat evoked by predator odor stimuli**

*Dogukan Ülgen, CH*

**Hybridization-based *in situ* sequencing in the nucleus accumbens reveals peripubertal stress-associated changes in the different cell types**

*Rebecca Waag, CH*

**Assessing the molecular and functional alterations induced by repeated stress exposure in the locus coeruleus**

*Dewi van der Geugten, NL*

**Better safe than sorry? The role of the extended amygdala circuit in generalized fear and anxiety**

*Lotte van Doeselaar, DE*

**FKBP51 in glutamatergic forebrain neurons mediates beneficial effects of moderate early life adversity on hippocampal structure and function**

*Eva Viho, NL*

**Cell type specificity of glucocorticoid signalling in the adult mouse hippocampus**

*Lars Wilmes, IE*

**Stress and resilience in the gut-brain axis: role of the microbiome in comorbid behavioral phenotypes**

*Huanqing Yang, DE*

**Cognitive and emotional functions of mice lacking the mineralocorticoid receptor in glutamatergic or GABAergic neurons**

*Hiba Zaidan, IL*

**Transgenerational effects of pre-reproductive stress in female rats: putative mechanisms and future implications**