



SAN2023

October 3rd - 7th

**Universidad Nacional de San Luis
San Luis - Argentina**

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SPONSORS & VENUE



VENUE

The XXXVIII Annual Meeting of the SAN will be held at the Auditorium of the National University of San Luis, San Luis, Argentina, from October 2nd to 7th, 2023. The meeting will be held mainly in face-to-face format.

212 | Early ethanol exposure elicits ventilatory alterations by a serotonergic phenotype in neonate of rats

Neural Circuits and Systems Neuroscience

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Alcohol consumption is highly frequent during pregnancy and lactation. Early ethanol exposure (EEE) affects the development, triggering different neurobehavioral dysfunctions and also affecting respiratory regulation. The serotonergic system modulates the respiratory frequency through efferents towards areas of the brainstem responsible for the generation of the respiratory rhythm. The main goals of this study are to: i) analyze serotonin-5HT levels in areas of the medullary raphe according to acute or chronic EEE, or also the combination of both, and ii) correlates 5HT levels and plethysmographic recordings against an hypoxic challenge. The results indicate that breathing frequencies depress under any form of EEE. But, first acute ethanol intoxication elicits major breathing depression while the prior ethanol exposure induces ventilatory plasticity phenomena to recover and elevate them. Besides, any form of EEE is associated with an increase in 5HT levels in the medullary raphe nuclei analyzed. In turn, we find a significant association between 5HT levels in the raphe magnus and the ventilatory rates during hypoxia. Actually, higher respiratory frequencies are found in pups with lower 5HT levels in this nucleus. These results allow us to think about how the EEE with a moderate dose (2.0g/kg) induces a serotonergic phenotype that may be affecting the respiratory processes of metaplasticity observed in an hypoxic event. Financial support by FONCyT, CONICET and UNC.