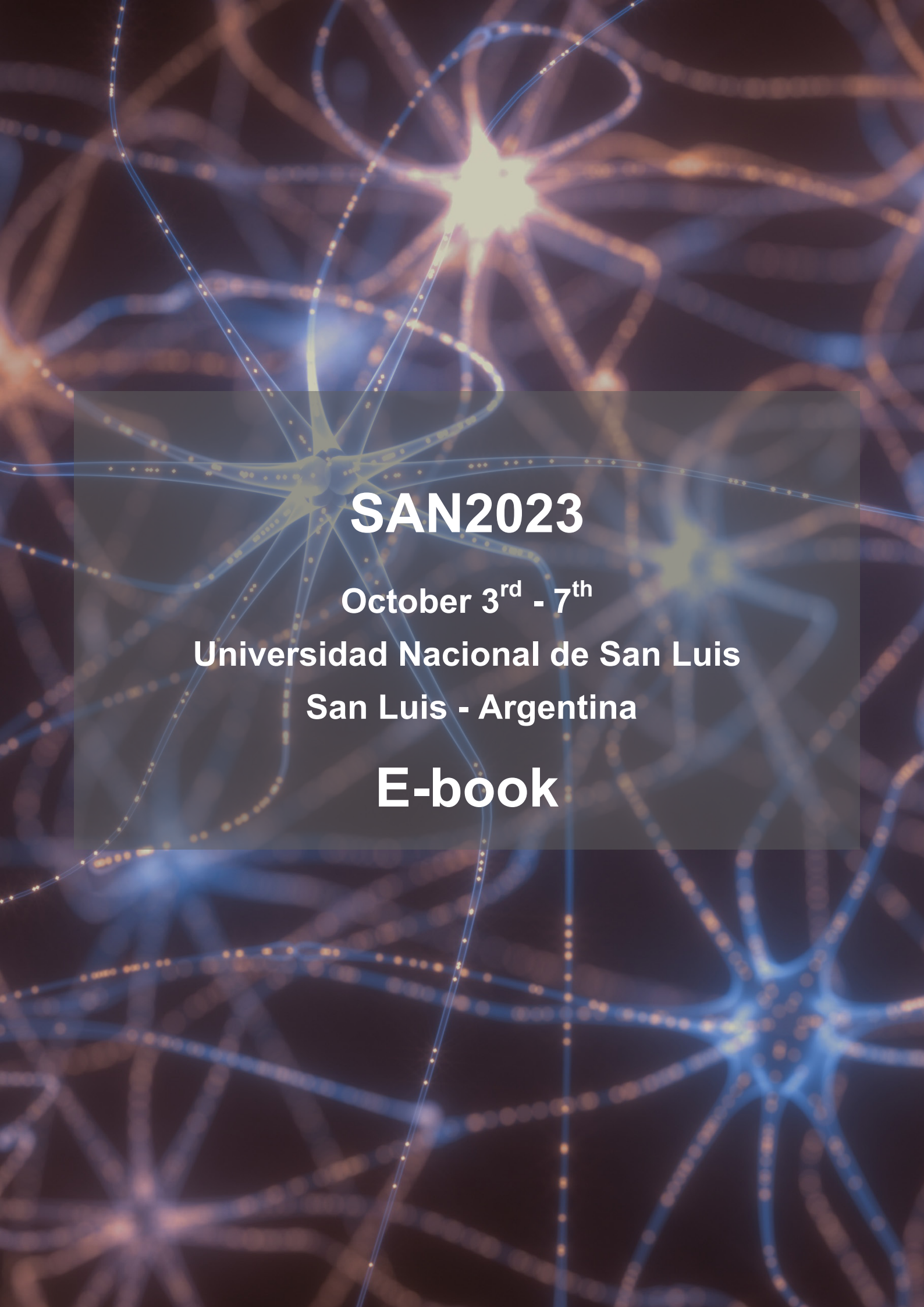

SAN2023

October 3rd - 7th

Universidad Nacional de San Luis

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E-book

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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.

084 | Binge-like ethanol exposure and possible amelioration of Omega-3 (ω-3) Fatty Acid on anxiety-like behavior and long-term spatial memory in adolescent rats.

Cognition, Behavior, and Memory

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The Panamerican Health Organization reports to Argentina among Latin American countries with the highest alcohol drinking per capita. Adolescents are among the most vulnerable to negative alcohol effects. Ethanol (EtOH) exposure may cause behavioral disorders related to anxiety and memory impairments. Besides, ω-3 mitigates EtOH-induced effects on anxiety-like behaviors and spatial memory in neonate or adult rats. Yet, no literature was found about these effects in adolescence.
In this study, we analyze the behavioral effects of EtOH exposure and the possible mitigation of ω-3 or DHA (one of its main components) in adolescent Wistar rats. We administered 2 or 0g/kg of EtOH (ig) at postnatal days-PDs 28, 30 and 32. 15 min after, one set of animals received ω-3 (720mg/kg, ig) or its equivalent volume of corn oil and were evaluated in an elevated plus maze (PD36) to measure anxiety-like behavior. Other animal groups received DHA (1mg/kg, ip) or an equivalent volume of albumin and were evaluated in a Barnes maze to measure short- (PD36) and long-term (PD41) spatial memory.
EtOH treated animals spend less time in open arms, but this time increases significantly in EtOH+ω-3 animals. Besides, EtOH animals traveled more distance prior to escape hole at PD41, but this variable decreases in EtOH+DHA animals. These results suggest that, while EtOH elicits anxiety-like behavior and impairs long-term spatial memory, ω-3 or DHA seem to mitigate both negative EtOH effects in adolecents.