

## **Neurotransmitter Modulation in Rat Hippocampus Via Extracranial Focal Electrical Stimulation**

Besio, W. G. (University of Rhode Island), Luna-Munguía, Hiram (Center for Research and Advanced Studies), Rocha, Luisa (Center for Research and Advanced Studies)

EPILEPSY is a neurological disorder that affects approximately one percent of the world population with up to three-fourths of all persons with epilepsy in developing countries. Besio et al. have been analyzing the effects of noninvasive transcranial focal electrical stimulation (TFS) for the control of seizures. The TFS has been very successful in controlling acute seizures in penicillin, pilocarpine status epilepticus, and pentylenetetrazole rat seizure models. To understand what stimulation parameters may be most effective at controlling seizures it would be beneficial to understand the mechanism(s) of action of the TFS. Towards this end we conducted microdialysis experiments to analyze neurotransmitters in the rat hippocampus due to TFS on the skull. We found that several neurotransmitters may have been modulated in the hippocampus even with the weak TFS.