

LABORATOIRE DE NEUROBIOLOGIE  
DES RESEAUX SENSORIMOTEURS  
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Prof. Rob de Ruyter  
email: [deruyter@indiana.edu](mailto:deruyter@indiana.edu)  
Department of Physics  
Indiana University

Dear Professor de Ruyter:

I am pleased to write a letter of recommendation for Joel Tabak. Joel completed his Ph.D. with me in 1996 at the University of Rennes, France. His doctoral thesis has led not only to two peer reviewed publications, but is also an excellent presentation of theoretical neurobiology that has been used by a number of my subsequent students as a writing style to emulate. Joel is one of the rare individuals who has mastered both theoretical and experimental neurobiology and as such, uniquely contributes to neuroscience with penetrating and incisive insight.

Joel's initial work was on the *Xenopus* locomotion system in which he showed that the voltage dependence of the NMDA receptors greatly facilitates the genesis and maintenance of locomotor rhythm. Furthermore, he developed methods of parameter estimation that permit a rigorous evaluation of the interactions between different variables and ways to determine the most realistic models from experimental data. These considerations were latter extended to the chick embryonic locomotor system to investigate NMDA induced oscillations during a soma voltage clamp of spinal neurons.

During the last few years Joel has investigated the spontaneous activity of the developing spinal cord and developed elegant modeling methods to consider activity-dependent depression in an excitatory network. These studies combine both experimental and theoretical expertise which show that synaptic depression of excitatory networks can give rise to the multiple patterns of activity observed experimentally.

Finally, I consider Joel Tabak to be one of our most promising young neuroscientists and highly recommend him without reservation.

Sincerely yours,

Lee E. Moore  
Director of Research