

Cerebellar Neurofeedback Student Scholarship Application

Student Scholarships consisting of Free NeuroGuide software available to students that submit a meritorious research project in the use of swLORETA Z score EEG biofeedback of the Cerebellum and related brain regions. The goal is to support education and to encourage qualified students to publish qEEG studies and especially neurofeedback outcome studies. The scholarship software will include the complete NeuroGuide package with add-ons such as: NeuroNavigator, NeuroStat and NeuroBatch, Connectivity Suite, and swLORETA Z score biofeedback. NeuroStat provides mouse click control over statistical comparisons between pre-treatment vs. post-treatment EEG for both individual subjects as well as groups of subjects. NeuroBatch provides for automatic processing of large groups of subjects in preparation for statistical analyses. These programs create color topographic maps of absolute differences, percent differences, repeated measures analysis of variance, paired t-tests, independent t-tests, standard deviations and many other useful statistics that were specifically designed for the analysis of neurofeedback outcome studies. Those who are interested can learn about the details of these programs at following links:

<https://appliedneuroscience.com/downloads/>

<https://appliedneuroscience.com/video-library/>

The scholarship includes a renewable single user license and there will be no limit on the number of runs of the software during the course of the student's research studies.

We welcome all those who are interested to apply.

Applied Neuroscience, Inc.

Terms and Conditions:

- 1) To be eligible the student must provide written proof of full-time student status in a doctoral level program. An email from the student's thesis advisor or department chairman will satisfy this requirement.
- 2) Research Design:
 - a) Parkinson Patients or Patients with Balance Problems or people with coordination problems or TBI patients
 - b) Wait Design with two Groups of Subjects with same Medications and same therapy, EEG is measured for both groups, but one group receive Cerebellar-Sensory-Motor Cortex SMR (12-15 Hz) Neurofeedback and the other group does not. Both groups should receive the same non-NFB treatments.
 - c) Symptom severity will be assessed by the use standard symptom scaling and self-report and quality of life measures of symptom severity pre-treatment, during treatment and post treatment.
 - d) Cerebellar Neurofeedback and Wait Group Experimental Design

**Collaborative Cerebellum Neurofeedback Research Design
Data Will Be Analyzed by Student and Applied Neuroscience, Inc.**

Group #1	Baseline (3 min)	Cerebellar-Sensory/Motor Cortex NFB	Post-EEG (3 min)
Group #2	Baseline (3 min)	No Neurofeedback – EEG Only	Post-EEG (3 min)

Statistical Comparisons:

- 1- Baseline #1 vs Baseline before each session
- 2- Baseline vs Post EEG
- 3-Post EEG #1 vs Post EEG after each session
- 4- Other appropriate statistics where needed

3) The student must submit a 1 to 2 page description of his/her research design that includes a statement of purpose, methods, proposed analyses and estimated beginning and ending dates. The application must include the student's full name, address, telephone number, institution affiliation and location(s) where the research is to be conducted. Applicants are to email the application either inside an email or as an attachment to an email to qeeg@appliedneuroscience.com.

4) Each scholarship application will be reviewed by Applied Neuroscience, Inc. and the most meritorious research proposals will be awarded a NeuroGuide Software scholarship. The criteria for granting a scholarship will be 1- Access to Parkinson patients, 2- University and IRB support with a consent form. Awardees of the scholarship will be notified in writing.

5) Each scholarship will consist of a renewable single user's license. The value of NeuroGuide and add-ons is approximately \$20,000 per system and two systems may be awarded depending on need. Please download NeuroGuide Deluxe from: <https://appliedneuroscience.com/download-neuroguide-demo/> and save the .zip file in a folder on your computer. Then unzip and save the installation files in the same folder and then double click setup.exe to install NeuroGuide. Please launch NeuroGuide and copy and paste the security key A into an email to rwthatcher@yahoo.com and after approval of the scholarship application we will email back a key B to unlock the software.

6) During the course of the student's research activities the awardees will collaborate with ANI research staff to conduct statistical analyses and monitor the progress of the research on a weekly or monthly basis. Expiration of the NeuroGuide license will also occur if the student leaves school or otherwise does not continue with his/her research activities.

Best regards.

Robert Thatcher, Ph.D.