Amended Claims

1. A method for detecting an aberrant pupillary response associated with a medical condition comprising:

illuminating a first subject's eye with a continuous illumination starting at an intensity and gradually changing the illumination intensity to a subsequent intensity over a predefined period of time;

measuring a parameter associated with a pupillary response of the first subject's eye to the change in illumination intensity of the continuous illumination, the measuring being performed at a succession of times over the period of time; and

obtaining a first profile representing the pupillary response of the first subject's eye to the change in the illumination intensity of the continuous illumination corresponding to the succession of times.

2. The method according to claim 1, wherein the continuous illumination is gradually changed from the intensity to the subsequent intensity at a constant rate.

3. The method according to any one of the preceding claims, wherein the continuous illumination is gradually changed from the intensity to the subsequent intensity logarithmically.

4. The method according to any of one of the preceding claims, wherein the continuous illumination is decreased from the intensity to the subsequent intensity.

5. The method according to any one of the preceding claims, wherein the continuous illumination is directed to the entire retina of the first subject's eye.

6. The method according to any one of the preceding claims, wherein the continuous illumination is directed to a selected target region of the retina of the first subject's eye.

7. The method according to any one of the preceding claims, wherein the illumination comprises a narrow band of wavelengths.

8. The method according to any one of the preceding claims, wherein the method further comprises exposing the first subject's eye to multiple sequences of a continuous illumination of light starting at a first intensity and gradually changing the intensity of the light to a subsequent intensity over a predefined period of time.

9. The method according to claim 8, wherein each sequence vary from another sequence in terms of at least one of the following characteristics: wavelength, chromaticity, duration, intensity range and rate of change of intensity.

10. An apparatus for detecting for an aberrant pupillary response associated with a medical condition effecting and monitoring a pupillary response to a photic stimulus, the apparatus comprising:

an image capturing device configured to capture images reflected from a subject 's eye in real time;

an illumination source with adjustable light intensity configured to illuminate at least one the subject's eyes with a continuous illumination starting at an intensity and gradually changing to a subsequent intensity over a predefined period of time;

a measuring device configured to measure a parameter associated with a pupillary response of the subject's eye to the change in illumination intensity of the continuous illumination at a succession of times over the period of time; and

a computer processor configured to generate a profile representing the pupillary response of the subject's eye to the change in illumination intensity of the continuous illumination corresponding to the succession of times over the predefined period of time.

11. The apparatus according to claim 10, wherein the continuous illumination is directed to the entire retina of the subject's eye.

12. The apparatus according to claim 10, wherein the continuous illumination is directed to a selected target region of the retina of the subject's eye.

13. The apparatus according to any one of claims 10 to 12, wherein the illumination provides illumination of a narrow band of wavelengths.

14. The apparatus according to any one of the preceding claims, where in the apparatus is adapted to present multiple sequences of a continuous illumination of light starting at an intensity and gradually changing the intensity of the light to a subsequent intensity over a predefined period of time.

15. The apparatus according to claim 14, wherein each sequence vary from another sequence in terms of at least one of wavelength, chromaticity, duration, intensity range and rate of change of intensity.

16. The method of claim 1 further comprising:

obtaining a second profile representing the pupillary response of the eye to the change in illumination intensity of the continuous illumination corresponding to the succession of times;

comparing the first profile of the first subject's eye with the second profile of the first subject's eye; and

analysing if there is any deviation between the first profile and the second profile of the first subject's eye.

17. The method of claim 1 further comprising:

illuminating a second subject’s eye with a continuous illumination starting at the intensity and gradually changing the illumination intensity to a subsequent intensity over a predefined period of time;

measuring a parameter associated with a pupillary response of the second subject’s eye to the change in illumination intensity of the continuous illumination, the measuring being performed at a succession of times over the period of time;

obtaining a third profile representing the pupillary response of the second subject’s eye to the change in illumination intensity of the continuous illumination corresponding to the succession of times;

comparing the first profile of the first subject’s eye with the third profile of the second subject’s eye; and

analysing if there is any deviation between the first profile of the first subject’s eye and the third profile of the second subject’s eye.