Claims:

1. An ophthalmic lens for at least one of slowing, retarding or preventing myopia progression, the ophthalmic lens comprising:

a center zone with a negative power for myopic vision correction; and

at least one treatment zone surrounding the center zone, the at least one treatment zone having a power profile comprising a positive power relative to the center zone, the at least one treatment zone having a surface shape comprising a portion of a generally toroidal shape, wherein the at least one treatment zone is arranged as to form a continuous surface with the center zone.

2. The ophthalmic lens of claim 1, wherein the portion of the generally toroidal shape may be derived from a torus (e.g., a spheroidal torus), after making a slice in the shape of the surface of a right circular cone through the surface of the spheroidal torus wherein the principal axis of the cone is coincident with the axis of rotation about which the torus is generated.

3. The ophthalmic lens according to claim 1, wherein the at least one treatment zone is configured to minimize generation of a focal point behind a retinal plane of the eye of a wearer.

4. The ophthalmic lens according to claim 3, wherein an incident surface of the at least one treatment zone is configured to minimize generation of a focal point behind a retinal plane of the eye of a wearer.

5. The ophthalmic lens according to claim 1, further comprising a transition zone disposed between then center zone and the at least one treatment zone such that

the at least one treatment zone, the transition zone, and the center zone form a continuous surface.

6. The ophthalmic lens according to claim 1, wherein the at least one treatment zone comprises an ADD power relative to the myopia correction power of greater than +0.50 D.

7. The ophthalmic lens according to claim 1, wherein the at least one treatment zone comprises an optical power from about -10.00 D to about +15.00 D.

8. The ophthalmic lens according to claim 1, wherein a diameter of the center zone is about 2 mm to about 7 mm.

9. The ophthalmic lens according to claim 1, wherein the at least one treatment zone has an annular configuration sharing a common geometric axis with the center zone, and wherein the at least one treatment zone generates a focal ring, with the locus of each of the infinite focal points on the ring being displaced (‘non-coaxial’) from the geometric axis of the center zone.

10. The ophthalmic lens according to claim 1, wherein the at least one treatment zone has an outer margin at about 4.5 mm from a center of the lens.

11. The ophthalmic lens according to claim 1, wherein a halo effect is minimized.

12. The ophthalmic lens according to claim 1, wherein the ophthalmic lens comprises a contact lens.

13. The ophthalmic lens according to claim 1, wherein the ophthalmic lens comprises a spectacle lens.

14. The ophthalmic lens according to claim 1, wherein the ophthalmic lens comprises an intraocular lens, a corneal inlay, or a corneal onlay.

15. The ophthalmic according to claim 1, further comprising one or more stabilization mechanisms.

16. An ophthalmic lens for at least one of slowing, retarding or preventing myopia progression, the ophthalmic lens comprising:

a center treatment zone;

a myopia correction zone surrounding the center zone, wherein the myopia correction zone exhibits a negative power for myopic vision correction, and wherein the center zone exhibits an ADD power relative to the myopia correction zone; and

at least one treatment zone surrounding the center zone and disposed radially outwardly from the myopia correction zone, the at least one treatment zone having a power profile comprising a positive power, the at least one treatment zone having a surface shape comprising a portion of a generally toroidal shape, wherein the at least one treatment zone is arranged as to form a continuous surface with the center zone.

17. The ophthalmic lens according to claim 16, wherein the at least one treatment zone is configured to minimize generation of a focal point behind a retinal plane of the eye of a wearer.

18. The ophthalmic lens according to claim 17, wherein an incident surface of the at least one treatment zone is configured to minimize generation of focal points behind a retinal plane of the eye of a wearer.

19. The ophthalmic lens according to claim 16, further comprising a transition zone disposed between then center zone and the at least one treatment zone such that the at least one treatment zone, the transition zone, and the center zone form a continuous surface.

20. The ophthalmic lens according to claim 16, wherein the at least one treatment zone comprises an ADD power of greater than +5.00 D.

21. The ophthalmic lens according to claim 16, wherein the at least one treatment zone comprises an optical power from about -10.00 D to about +15.00 D.

22. The ophthalmic lens according to claim 16, wherein a diameter of the center zone is about 3 mm to about 7 mm.

23. The ophthalmic lens according to claim 16, wherein the at least one treatment zone has an annular configuration sharing a common geometric axis with the center zone, and wherein the at least one treatment zone exhibits a focal ring, with the locus of each of the infinite focal points on the ring being displaced (‘non-coaxial’) from the geometric axis of the center zone.

24. The ophthalmic lens according to claim 16, wherein the at least one treatment zone has an outer margin at about 4.5 mm from a center of the lens.

25. The ophthalmic lens according to claim 16, wherein a halo effect is minimized.

26. The ophthalmic lens according to claim 16, wherein the ophthalmic lenses comprises a contact lens.

27. The ophthalmic lens according to claim 16, wherein the ophthalmic lenses comprises a spectacle lens.

28. The ophthalmic lens according to claim 16, wherein the ophthalmic lens comprises an intraocular lens, a corneal inlay, or a corneal onlay.

29. The ophthalmic according to claim 16, further comprising one or more stabilization mechanisms.

30. An ophthalmic lens for at least one of slowing, retarding or preventing myopia progression, the ophthalmic lens comprising:

a center zone with a negative power for myopic vision correction, the center zone having a principal axis orthogonal to a surface thereof and passing through a center of the ophthalmic lens; and

at least one treatment zone surrounding the center zone, the at least one treatment zone having a power profile comprising a positive power relative to the center zone, the at least one treatment zone having a surface shape comprising a portion of a generally toroidal shape, wherein the at least one treatment zone is arranged as to form a continuous surface with the center zone, and wherein the at least one treatment zone has a tilt angle configured to direct an innermost ray relative to a cross section of the treatment zone to cross the principal axis at a point that is at or anterior to a retinal plane of a wearer of the ophthalmic lens.

31. The ophthalmic lens according to claim 30, wherein the tilt angle is configured to direct the innermost ray to cross the principal axis at a point between the retinal plane and a point on the principal axis that represents a coincident point focus of the treatment zone.

32. The ophthalmic lens of claim 30, wherein the portion of the generally toroidal shape may be derived from a torus (e.g., a spheroidal torus), after making a slice in the shape of the surface of a right circular cone through the surface of the spheroidal torus wherein the principal axis of the cone is coincident with the axis of rotation about which the torus is generated.

33. The ophthalmic lens according to claim 30, further comprising a transition zone disposed between then center zone and the at least one treatment zone such that the at least one treatment zone, the transition zone, and the center zone form a continuous surface.

34. The ophthalmic lens according to claim 30, wherein the at least one treatment zone comprises an ADD power relative to myopia correction power of greater than +5.00 D.

35. The ophthalmic lens according to claim 30, wherein the at least one treatment zone comprises an optical power from about -10.00 D to about +15.00 D.

36. The ophthalmic lens according to claim 35, wherein the tilt angle is dependent upon the optical power of the treatment zone.

37. The ophthalmic lens according to claim 30, wherein a diameter of the center zone is about 3 mm to about 7 mm.

38. The ophthalmic lens according to claim 30, wherein the at least one treatment zone has an annular configuration sharing a common geometric axis with the center zone, and wherein the at least one treatment zone exhibits a focal ring, with the locus of each of the infinite focal points on the ring being displaced (‘non-coaxial’) from the geometric axis of the center zone.

39. The ophthalmic lens according to claim 30, wherein the at least one treatment zone has an outer margin at about 4.5 mm from a center of the lens.

40. The ophthalmic lens according to claim 30, wherein a halo effect is minimized.

41. The ophthalmic lens according to claim 30, wherein the ophthalmic lenses comprises a contact lens.

42. The ophthalmic lens according to claim 30, wherein the ophthalmic lenses comprises a spectacle lens.

43. The ophthalmic lens according to claim 30, wherein the ophthalmic lens comprises an intraocular lens, a corneal inlay, or a corneal onlay.

44. The ophthalmic according to claim 30, further comprising one or more stabilization mechanisms.