What is Claimed:

1. A light source, comprising:

   a laser source, the laser source comprising at least one diode;

   an optic fiber disposed so as to communicate light pulses having a plurality of modes between the laser source and a target position so as to reduce speckles in a captured image of a target at the target position,

   at least some of the optic fiber being present in one or more layers wrapped about a spindle,

   the spindle optionally comprising circumferential walls between which circumferential walls optic fiber is wound,

   a layer comprising at least one taut winding of the optical fiber.

2. The light source of claim 1, wherein a layer of the optic fiber comprises at least two taut windings of the optic fiber that are essentially parallel to one another.

3. The light source of any one of claims 1 to 2, wherein a winding of the optic fiber in an outer layer is essentially parallel to a winding of the optic fiber in an inner layer immediately beneath the outer layer.

4. The light source of any one of claims 1 to 3, wherein windings of the optic fiber in an outer layer do not cross over windings of the optic fiber in an inner layer immediately beneath the outer layer.

5. The light source of any one of claims 1 to 4, comprising an inner layer of optic fiber comprising a plurality of taut windings of the optic fiber and an outer layer of optic fiber comprising a plurality of taut windings of the optic fiber, and wherein

   (i) the plurality of taut windings of the optic fiber in the outer layer are parallel to one another,

   (ii) the plurality of taut windings of the optic fiber in the inner layer are parallel to one another, and the plurality of taut windings of the optic fiber in the

outer layer are parallel to plurality of windings of optic fiber in the inner layer.

6. The light source of any one of claims 1 to 5, wherein the spindle has a constant cross-sectional dimension.

7. The light source of any one of claims 1 to 5, wherein the spindle is variable in cross-sectional dimension.

8. The light source of any one of claims 1 to 7, wherein the spindle has a cross-sectional dimension of from about 1 cm to about 10 cm.

9. The light source of any one of claims 1 to 8, wherein the light pulses from the laser source are synchronized.

10. The light source of any one of claims 1 to 9, wherein light from the laser source is pulsed at approximately 100 nanoseconds to strobe the target.

11. The light source of any one of claims 1 to 10, further comprising an image capture device configured to capture the captured image of the target, the captured image optionally having an exposure of approximately 6 microseconds.

12. The light source of any one of claims 1 to 11, wherein the optic fiber is a multimode optic fiber.

13. The light source of any one of claims 1 to 12, wherein the optic fiber is a high numeric aperture optic fiber.

14. The light source of any one of claims 1 to 13, wherein a numeric aperture of the optic fiber is approximately 0.5.

15. The light source of any one of claims 1 to 14, wherein the length of the optic fiber is between approximately 2 meters and approximately 75 meters.

16. The light source of claim 15, wherein the length of the optic fiber is approximately 50 meters.

17. The light source of any one of claims 1 to 16, wherein the laser source comprises a plurality of laser diodes and wherein each of the plurality of laser diodes is positioned spatially apart from other ones of the plurality of laser diodes.

18. The light source of any one of claims 1 to 17, wherein the position for the target is spatially separated from the plurality of laser diodes.

19. The light source of any one of claims 1 to 18, wherein the laser source includes a first laser diode that generates the source light at a predefined wavelength.

20. The light source of any one of claims 1 to 19, wherein the laser source includes at least one multimode laser diode.

21. The light source of any one of claims 1 to 20, wherein the laser source includes a plurality of laser diodes, wherein at least one of the plurality of laser diodes generates light at a different wavelength from another of the plurality of laser diodes.

22. A method, comprising operating a light source according to any one of claims 1-21 to illuminate a target.

23. The method of claim 22, further comprising collecting an image of the target.

~~24. A method, comprising:~~

~~placing an optic fiber into optical communication with a source of illumination such that the optic fiber is placed so as to communicate light from the source of illumination to a target disposed at a target location,~~

~~at least some of the optic fiber being present in one or more layers wrapped about a spindle,~~

~~the spindle optionally comprising circumferential walls between which optic fiber is wound, and~~

~~a layer comprising at least one taut winding of the optical fiber.~~

~~25. The method of claim 24, wherein a layer of the optic fiber comprises at least two taut windings of the optic fiber that are essentially parallel to one another.~~

26. The method of any one of claims 24 to 25, wherein a winding of the optic fiber in an outer layer is essentially parallel to a winding of the optic fiber in an inner layer immediately beneath the outer layer.

27. The method of any one of claims 24 to 26, wherein windings of the optic fiber in an outer layer do not cross over windings of the optic fiber in an inner layer immediately beneath the outer layer.

28. The method of any one of claims 24 to 27, wherein the optic fiber is present as an inner layer of optic fiber comprising a plurality of taut windings of the optic fiber and an outer layer of optic fiber comprising a plurality of taut windings of the optic fiber, and wherein

(i) the plurality of taut windings of the optic fiber in the outer layer are parallel to one another,

(ii) the plurality of taut windings of the optic fiber in the inner layer are parallel to one another, and

(iii) the plurality of taut windings of the optic fiber in the outer layer are parallel to plurality of windings of optic fiber in the inner layer.

29. A method for providing source light for generating an image, comprising:

generating illumination with one or more laser diodes; and

passing the illumination through an optic fiber being present in one or more layers wrapped about a spindle,

the spindle optionally comprising circumferential walls between which optic fiber is wound, and

a layer comprising at least one taut winding of the optical fiber,

the passing performed such that multimode source light is emitted from the optic fiber so as to illuminate a target with the illumination light, the illumination reducing speckles in an image of the target.

~~30. The method of claim 29, wherein the illumination is generated by at least two laser diodes that generate light at a different wavelength from one another such that the at least two laser diodes produce the illumination with a plurality of modes.~~

~~31. The method of any one of claims 29 to 30, wherein generating the source light comprises generating synchronized light pulses from the at least one laser diodes.~~

~~32. The method of any one of claims 29 to 31, wherein generating the illumination comprises pulsing at least one of the one or more laser diodes at a period of approximately 100 nanoseconds to strobe the target.~~

~~33. The method of any one of claims 29 to 32, further comprising capturing the image of the target with an image capture device, the image capture device optionally having an exposure of approximately 6 microseconds.~~

~~34. The method of any one of claims 29 to 32, wherein the optic fiber is a multimode optic fiber.~~

~~35. The method of any one of claims 29 to 34, wherein the optic fiber is a high numeric aperture optic fiber.~~

~~36. The method of claim 35, wherein the numeric aperture of the optic fiber is about 0.5.~~

~~37. The method of any one of claims 29 to 36, wherein the length of the optic fiber is from about 2 meters to about 50 meters.~~

~~38. The method of claim 37, wherein the length of the optic fiber is about 50 meters.~~

~~39. The method of any one of claims 29 to 38, wherein the illumination is generated by a plurality of laser diodes, each of the plurality of laser diodes being positioned spatially apart from others of the plurality of laser diodes.~~

~~40. The method of any one of claims 29 to 39, wherein the target is located within a flow cell.~~

~~41. The method of any one of claims 29 to 40, further comprising effecting relative motion between the illumination and the target.~~

~~42. The method of any one of claims 29 to 41, wherein the target is stationary during application of the illumination.~~

~~43. The method of any one of claims 29 to 42, wherein the target is moving during application of the illumination.~~

~~44.~~24. A cytometer, comprising:

a flow cell configured to contain one or more particles therein,

the flow cell defining a target region;

an illumination train comprising at least (1) a laser source that includes at least one diode and (2) an optic fiber in optical communication with the laser source,

at least some of the optic fiber being present in one or more layers wrapped about a spindle,

the spindle optionally comprising circumferential walls between which circumferential walls optic fiber is wound, and

a layer comprising at least one taut winding of the optical fiber.

~~45.~~25. The cytometer of claim ~~44~~24, further comprising an image capture device configured to capture an image of a target disposed within the target region while illuminated by illumination from the at least one diode communicated through the optic fiber.

~~46. An imager, comprising:~~

~~a sample zone configured to contain a sample therein;~~

~~an illumination train comprising at least (1) a laser source that includes at least one diode and (2) an optic fiber in optical communication with the laser source,~~

~~at least some of the optic fiber being present in one or more layers wrapped about a spindle,~~

~~the spindle optionally comprising circumferential walls between which circumferential walls optic fiber is wound, and~~

a layer comprising at least one taut winding of the optical fiber; and

an image capture device configured to capture an image of a sample disposed within the sample zone region while illuminated by illumination from the at least one diode communicated through the optic fiber,

the imager further optionally comprising a movement train configured to effect relative motion between the sample within the sample zone and illumination from the at least one diode communicated through the optic fiber.

47. A light source, comprising:

a laser source, the laser source comprising at least one diode; and

an optical fiber disposed so as to communicate light between the laser source and an imaging plane so as to lower coherence of the light so as to reduce speckle at the imaging plane,

at least some of the optical fiber being bent about a support so as to give rise to a mechanical tension within the optical fiber.

48. The light source of claim 47, wherein the support is characterized as a spindle.

49. The light source of claim 47, wherein the support is characterized as a post.

50. The light source of any one of claims 47 to 49, wherein the support defines a constant cross-sectional dimension.

51. The light source of any one of claims 47 to 50, wherein the optical fiber comprises at least one winding that encircles the support.

52. The light source of claim 51, wherein the optical fiber comprises a plurality of windings that encircle the support.

53. The light source of claim 52, wherein the optical fiber comprises a plurality of layers that encircle the support, each layer comprising a plurality of windings.

54. The light source of any one of claims 47-53, wherein the light source is configured to give rise to less than about 2% speckle at the imaging plane.

~~55. The light source of claim 54, wherein the light source is configured to give rise to less than about 1% speckle at the imaging plane.~~

~~56. The light source of claim 54, wherein the light source is configured to give rise to about 1% speckle at the imaging plane.~~

~~57. The light source of any one of claims 47 to 56, wherein the optical fiber has a long term bend radius, and wherein the optical fiber is bent at a radius less than the long term bend radius.~~

~~58. The light source of any one of claims 47 to 57, wherein the transmission of the light through the optical fiber is from about 60% to about 90%.~~

~~59. The light source of claim 58, wherein the transmission is from about 75% to about 90%.~~

~~60. The light source of any one of claims 47 to 59, wherein the imaging plane is disposed within a flow cell.~~

~~61. The light source of claim 60, wherein the flow cell is comprised in a flow cytometer.~~

~~62. The light source of any one of claims 47 to 61, wherein the mechanical tension maintains the optical fiber in a taut state.~~

~~63. The light source of any one of claims 47 to 62, wherein the laser source provides light as light pulses, the light pulses optionally being synchronized.~~

~~64. The light source of claim 63, wherein light from the laser source is pulsed at approximately 100 nanoseconds to strobe the target.~~

~~65. The light source of any one of claims 47 to 64, further comprising an image capture device configured to capture the captured image of the target, the captured image optionally having an exposure of approximately 6 microseconds.~~

~~66. The light source of any one of claims 47 to 65, wherein the optic fiber is a multimode optic fiber.~~

~~67. The light source of any one of claims 47 to 66, wherein the optic fiber is a high numeric aperture optic fiber.~~

~~68. The light source of any one of claims 47 to 67, wherein a numeric aperture of the optic fiber is approximately 0.5.~~

~~69. The light source of any one of claims 47 to 68, wherein the length of the optic fiber is between approximately 2 meters and approximately 75 meters.~~

~~70. The light source of claim 69, wherein the length of the optic fiber is approximately 50 meters.~~

~~71. The light source of any one of claims 47 to 70, wherein the laser source comprises a plurality of laser diodes and wherein each of the plurality of laser diodes is positioned spatially apart from other ones of the plurality of laser diodes.~~

~~72. The light source of any one of claims 47 to 71, wherein the laser source includes a first laser diode that generates the source light at a predefined wavelength.~~

~~73. The light source of any one of claims 47 to 72, wherein the laser source includes at least one multimode laser diode.~~

~~74. The light source of any one of claims 47 to 73, wherein the laser source includes a plurality of laser diodes, wherein at least one of the plurality of laser diodes generates light at a different wavelength from another of the plurality of laser diodes.~~

~~75. A method, comprising operating a light source according to any one of claims 47 to 74.~~

~~76. The method of claim 75, wherein the operating comprises illuminating one or more particles or cells at the imaging plane.~~

~~77. The method of claim 76, further comprising collecting an image of a target illuminated by the light source and located at the imaging plane.~~