WHAT IS CLAIMED IS:

1. A portable illumination apparatus for facilitating visualizations of tissue, the apparatus comprising:

   a portable housing for detachable attachment proximal to an image capturing unit; and

   an illumination unit comprising one or more narrow band light sources configured to shine m flashes at n predetermined wavelengths, wherein $n/4 \leq m \leq n$.

2. The portable illumination apparatus of claim 1, wherein the illumination unit further comprises a lens covering the one or more light sources, the lens having a focal length that is 80%-120% of a working distance between the illumination unit and a target area of tissue.

3. The portable illumination apparatus according to any one of claims of 1-2, wherein the one or more light sources is configured to provide flashes that are at least one of

   (i) 405±10nm wavelength, and having at least one of (a) a long pass filter with a cut-on wavelength of 450±25nm or (b) a bandpass filter with transmission in a 425nm-1000nm range,

   (ii) two wavelengths in a 450nm-750nm range, at least one of which in the green range,

   (iii) three wavelengths in a 450nm-750nm range, at least one of which in the green range, or

   (iv) 970±10nm wavelength.

4. The portable illumination apparatus according to any one of claims 1-3, wherein the illumination unit further comprises at least one of (i) a controller to control illumination of the one or more light sources and (ii) a rechargeable battery for powering the apparatus.

5. The illumination apparatus according to any one of claims 1-4, wherein the one or more light sources are arranged about a central aperture having a radius of 0.5-3cm.

6. The illumination apparatus of claim 5, wherein the one or more light sources are arranged in a ring having a radius of 1.5-6cm.

7. The illumination apparatus according to any one of claims of 1-6, wherein the portable housing comprises a compression clip for mounting the apparatus on a mobile device along at least one edge of the mobile device and proximal to a camera of the mobile device.

8. The illumination apparatus according to any one of claims of 1-6, wherein the portable housing comprises a spring clip for mounting the apparatus on a mobile device along at least one edge of the mobile device and proximal to a camera of the mobile device.

9. A tissue imaging system for visualization of tissue health indicators comprising a portable computing device, an image capture unit, and an illumination unit;

   the illumination unit comprising one or more narrow band light sources configured to shine m flashes at n predetermined wavelengths, wherein $n/4 \leq m \leq n$;

   the image capture unit and the illumination unit being configured to capture measurement data for a target area of tissue;

   the computing device comprising a processor configured to access and execute instructions in accordance with a tissue visualization application stored in a non-transitory computer-readable memory of the computing device, for capturing measurement data, and pre-processing and processing the measurement data to generate tissue health indicators.

10. The tissue imaging system of claim 9, wherein the computing device comprises a mobile device and the image capture unit is a camera integrated with the mobile device.

11. The tissue imaging system according to any one of claims of 9-10, wherein the illumination unit comprises the illumination apparatus according to any one of claims of 1-8.

12. The tissue imaging system according to any one of claims 10-11, wherein the portable illumination unit further comprises a wireless communication module for receiving commands from the computing device.

13. A tissue visualization system operatively connected to one or more tissue imaging systems according to any one of claims of 9-12, comprising a communications module for communicating with the one or more tissue imaging systems, a system processor, and system non-transitory computer-readable

memory thereon, configured to receive measurement data and tissue health indicators from the one or more tissue imaging systems and to generate a visualization of tissue health indicators of tissue images received from the one or more tissue imaging systems, for display to a user display unit.