[0004] A method for producing a structure including a plurality of fibers is provided. The method includes providing a collector with a predefined pattern, charging the collector with a first polarity, providing a spinneret, the spinneret configured to dispense a polymer on the provided collector, charging the spinneret to a second polarity substantially opposite the first, and dispensing a polymer on the collector, such that the polymer forms a plurality of fibers defining the structure, wherein the structure has at least two densities formed by the plurality of fibers.

[0004a] In one aspect, the present disclosure provides a method for producing a structure including a plurality of fibers, the method comprising: providing a collector with a predefined pattern; charging the collector with a first polarity; providing a spinneret, the spinneret configured to dispense a polymer on the provided collector; charging the spinneret to a second polarity substantially opposite the first; and dispensing a polymer on the collector, such that the polymer forms a plurality of fibers defining the structure, wherein the structure has at least two densities formed by the plurality of fibers.

[0005] A method for repairing a defect of a substrate. The method includes providing a substrate with a defect, providing a structure formed from a plurality of polymeric fibers, the structure having a plurality of densities, and applying the structure to the substrate.

[0005a] In another aspect, the present disclosure provides a method for repairing a defect of a substrate, said method comprising: providing a substrate with a defect; providing a structure formed from a plurality of polymeric fibers, the structure having a plurality of densities; and applying the structure to the substrate.

[0006] A method for producing a structure for use in repairing a defect in a substrate is provided. The method includes providing a first layer formed by a plurality of polymeric fibers, providing a second layer formed by a plurality of polymeric fibers, the second layer having a plurality of densities, and coupling the first layer and the second layer together using a first coupling process such that the first and second layers are configured to separate after at least one of a predetermined time and an environmental condition.

[0007] A structure for use in repairing a defect in a substrate is provided. The structure includes a first layer formed by a plurality of polymeric fibers and a second layer coupled to the first layer using a first coupling process, the second layer having a plurality of densities formed by a plurality of polymeric fibers, wherein the first and second layers are configured to separate after at least one of a predetermined time and an environmental condition.

[0008] A method for repairing a defect of a substrate is provided. The method includes providing a substrate with a defect, providing a structure formed from a plurality of polymeric

fibers, the structure comprising a first layer formed by a plurality of polymeric fibers, and a second layer coupled to the first layer, the second layer having a plurality of densities formed by a plurality of polymeric fibers, wherein the first and second layers are configured to separate after at least one of a predetermined time and an environmental condition, and applying the structure to the substrate.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] The embodiments described herein may be better understood by referring to the following description in conjunction with the accompanying drawings.

WHAT IS CLAIMED IS:

1. A method for producing a structure including a plurality of fibers, the method comprising:

providing a collector with a predefined pattern;

charging the collector with a first polarity;

providing a spinneret, the spinneret configured to dispense a polymer on the provided collector;

charging the spinneret to a second polarity substantially opposite the first; and

dispensing a polymer on the collector, such that the polymer forms a plurality of fibers defining the structure, wherein the structure has at least two densities formed by the plurality of fibers.

2. A method in accordance with claim 1, further comprising applying at least one of a growth factor and a drug to the plurality of fibers.

3. A method in accordance with claim 1, further comprising chemically treating the plurality of fibers.

4. A method in accordance with claim 1, wherein providing a collector further comprises providing a collector including a plurality of features that are interconnected to form the predefined pattern.

5. A method in accordance with claim 4, wherein providing a collector further comprise providing a collector including at least one surface positioned within the interconnected features.

6. A method for repairing a defect of a substrate, said method comprising:

providing a substrate with a defect;

providing a structure formed from a plurality of polymeric fibers, the structure having a plurality of densities; and

applying the structure to the substrate.

7. A method in accordance with claim 6, wherein the substrate is biological tissue.

8. A method in accordance with claim 6, wherein the structure is applied to at least one of dura matter and cardiac tissue.