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stimulation and transmit said detection signals to said command circuitry.

53. The method of claim 52 further comprising the step of providing a portable device in electrical communication with said command circuitry.

54. An assistive device actuated by artificial muscles which provides increased dexterity and agility of an artificial or dysfunctional limb, comprising:

an articulated member having at least one joint pivotable about a corresponding joint axis and having a plurality of artificial muscles comprising smart materials affixed thereto wherein said artificial muscles are in signal communication with a system of sensors mounted on said member, said sensors detecting environmental stimulation of said member and producing detection signals corresponding to said stimulation, said sensors farther transmitting said detection signals to command circuitry in electrical communication with said artificial muscles so as to effect anthropometrical movement of said member in response thereto, said artificial muscles being arranged electrically in a combination of series and parallel current paths such that upon application of voltage to said artificial muscles a change in dimension of said artificial muscles is effected, to thereby cause movement of said member.

55. The device of claim 54, wherein said artificial muscles are mechanically connected between a pair of end plates.

56. The device of claim 54, wherein said artificial muscles are fixed proximate said joint axis to enable large angular movements of said articulated member.

57. The device of claim 54, wherein at least one of said artificial muscles is folded in an overlapping configuration along a length of said articulated member.

58. An assistive device actuated by artificial muscles which provides increased dexterity and agility of an artificial or dysfunctional limb, comprising:

an articulated member having at least one joint pivotable about a corresponding joint axis and having a plurality of artificial muscles comprising smart materials affixed thereto wherein said artificial muscles are in signal communication with a system of sensors mounted on said member, said sensors detecting environmental stimulation of said member and producing detection signals to command circuitry in electrical communication with said artificial muscles so as to effect anthro-

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pometrical movement of said member in response thereto, said artificial muscles comprising a bundle of elongate elements that are adapted to change dimension in response to said detection signals resulting in expansion or contraction of such elements and movement of said member.

59. An assistive device according to claim 58, wherein said detection signals are adapted to provide a voltage to said elements.

60. An assistive device according to claim 58, wherein said detection signals are adapted to provide pressure to said elements.

61. An assistive device according to claim 58, wherein said detection signals are adapted to provide a change in temperature to said elements.

62. A method of effecting movement of an artificial limb comprising of steps of:

providing an artificial limb having an articulated support member releasably mounted to a patient;

attaching a plurality of artificial muscles comprising smart materials to said articulated support member for movement of said member corresponding to contraction or expansion of said artificial muscles; and

subjecting selected artificial muscles to a physical condition to cause a change in dimension of said selected artificial muscles, resulting in contraction or expansion of such artificial muscles and thereby effecting movement of said articulated member.

63. The method of claim 62, wherein said subjecting step comprises the application of voltage to said selected artificial muscles.

64. The method of claim 62, wherein said subjecting step comprises the application of pressure to said selected artificial muscles.

65. The method of claim 62, wherein said subject step comprises the application of a change in temperature to said selected artificial muscles.

66. The method of claim 62, wherein said artificial muscles are provided in communication with residual muscles of said patient for communicating electromyographic signals to said artificial muscles so as to produce said physical condition.

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