a device comprising

a mechanical interface capable of displacement,

a transducer comprising at least two electrodes, and an electroactive polymer in electrical communication with the at least two electrodes and coupled to the mechanical interface, the polymer arranged in a manner that allows deflection of the polymer corresponding to displacement of the mechanical interface wherein the polymer has an elastic modulus at most about 100 MPa; and

control electronics in electrical communication with the at least two electrodes and designed or configured to set or change an electrical state of the transducer in order to cause a corresponding setting or change in the stiffness of the device.

2. The system of claim **1** wherein the control electronics comprise a voltage source in electrical communication with the at least two electrodes.

3. The system of claim **2** wherein the control electronics are configured to vary the voltage provided to the at least two electrodes.

4. The system of claim **2** wherein the voltage source is a high voltage source that supplies a voltage greater than 200 Volts.

5. The system of claim **1** wherein the device is configured such that displacement of the mechanical interface increases electrical energy within one of the transducer and the control electronics.

6. The system of claim **1** wherein the control electronics comprise a logic device configured to set or change the electrical state.

7. The system of claim **1** wherein the control electronics comprise an open loop control designed or configured to set or change the electrical state.

8. The system of claim **7** wherein the control electronics comprise a buffer capacitor.

9. The system of claim **8** wherein the buffer capacitor has a larger capacitance than a capacitance of the transducer for zero deflection of the transducer.

10. The system of claim **7** wherein the open loop control allows substantially free flow of charge to and from the transducer.

11. The system of claim **7** wherein the control electronics are configured to set or change a substantially constant charge that is provided to the at least two electrodes.

12. The system of claim **7** wherein the control electronics are configured to set or change a substantially constant voltage that is provided to the at least two electrodes.

13. The system of claim **7** wherein the open loop control comprises one of a transistor, triac, or relay.

14. The system of claim **1** wherein the system is further designed or configured to provide one of actuation, generation, and sensing.

15. The system of claim **14** wherein the device is designed or configured such that a first active area of the transducer provides the desired stiffness of the device and a second active area of the transducer provides the one of actuation, generation, and sensing.

16. The system of claim **1** wherein the system is further configured to provide damping, the system comprising:

dissipative electronics in electrical communication with the at least two electrodes and designed or configured to dump electrical energy in response to a change in the electrical state.

17. The system of claim **16** wherein the dissipative electronics comprise a resistor.

18. The system of claim **17** wherein the resistor has a resistance that produces an RC time constant for the resistor and the transducer in the range of about 0.1 to about 4 times a frequency of interest.

19. The system of claim **17** wherein the resistor has a resistance that produces an RC time constant for the resistor and the transducer in the range of about 2 to about 100 times a frequency of interest.

20. The system of claim **19** wherein the resistor has a resistance that produces an RC time constant for the resistor and the transducer in the range of about 5 to about 30 times a frequency of interest.

21. The system of claim **17** wherein the control electronics are designed or configured to provide stiffness control of the device independent from damping control.

22. The system of claim **17** wherein the resistor is a variable resistor.

23. The system of claim **1** wherein the device stiffness changes with polymer deflection.

24. The system of claim **23** wherein the device stiffness changes as a result of a shape change in the polymer related to the polymer deflection.

25. The system of claim **23** wherein the device stiffness changes as a result of a structural change in the device related to the polymer deflection.

26. The system of claim **1** wherein the control electronics are further configured or designed to apply an electrical state that places the polymer in a stiffness regime that provides a desired stiffness for the device.

27. The system of claim **1** wherein the electroactive polymer is a dielectric elastomer.

28. A system for providing damping using an electroactive polymer transducer, the system comprising:

a device comprising

a mechanical interface capable of displacement,

a transducer comprising at least two electrodes, and an electroactive polymer in electrical communication with the at least two electrodes and coupled to the mechanical interface, the polymer arranged in a manner that allows deflection of the polymer corresponding to displacement of the mechanical interface wherein the polymer has an elastic modulus at most about 100 MPa; and

control electronics in electrical communication with the at least two electrodes and designed or configured to set or change an electrical state of the transducer; and

dissipative electronics in electrical communication with the at least two electrodes and designed or configured to dump electrical energy in response to a change in the electrical state.

29. The system of claim **28** wherein the dissipative electronics comprise a resistor.

30. The system of claim **29** wherein the resistor has a resistance that produces an RC time constant for the resistor and the transducer in the range of about 0.1 to about 4 times a frequency of interest.

31. The system of claim **28** wherein the dissipative electronics store the electrical energy produced in response to a change in the electrical state.

32. The system of claim **28** wherein the dissipative electronics dump electrical energy in response to displacement of the mechanical interface.

33. The system of claim **28** wherein the control electronics are designed or configured to provide stiffness control of the device independent from damping control.

34. The system of claim **29** wherein the control electronics comprise a variable resistor.

35. The system of claim **28** wherein the control electronics are designed or configured to set or change the electrical