WHAT IS CLAIMED IS:

1. A device comprising:

a first magnet;

a second magnet; and

an interconnect between and interconnecting the first and second magnets, the interconnect configured to allow the first and second magnets to communicate via a voltage or current applied to the first and second magnets and conducted by the interconnect.

2. The device according to claim 1, wherein the first and second magnets are nanomagnets.

3. The device according to claim 2, wherein the first and second magnets have superposition states that are achievable by magnetizing the first and second magnets, and wherein magnetization of the first and second magnets is applied along respective neutral axes of the first and second magnets by a pulsing agent.

4. The device according to claim 3, wherein the first and second magnets communicate via spin polarized currents, spin waves, or a domain wall, and the pulsing agent is an external magnetic field, a spin transfer torque effect, or a voltage induced rotation of magnetization.

5. The device according to claim 3, wherein the first and second magnets have relaxed states that are achievable after magnetization of the first and second magnets.

6. The device according to claim 5, wherein the relaxed states of the first and second magnets are achieved with a known probability and based on a polarity and magnitude of the voltage or current applied to the first and second magnets.

7. The device according to claim 5, wherein the relaxed states are ferromagnetic ordering if the voltage or current applied to the first and second magnets has a negative polarity, and the relaxed states are anti-ferromagnetic ordering if the voltage or current applied to the first and second magnets has a positive polarity.

8. The device according to claim 1, wherein communications between the first and second magnets are tunable based on the magnitude and polarity of the voltage or current applied to the first and second magnets.

9. A method comprising:

electrically coupling a first magnet and a second magnet by an interconnect;

applying a voltage or current to the first and second magnets; and

configuring the interconnect to allow the first and second magnets to communicate in response to the voltage or current.

10. The method according to claim 9, further comprising magnetizing the first and second magnets to a superposition state along respective neutral axes of the first and second magnets, and relaxing the first and second magnets to a state that is based on the polarity and magnitude of the voltage or current applied to the first and second magnets.

11. The method according to claim 10, comprising magnetizing the first and second magnets by subjecting the first and second magnets to an external magnetic field, a spin transfer torque, or a voltage induced rotation.

12. The method according to claim 10, wherein the first and second magnets communicate via spin polarized currents, spin waves, or a domain wall, all of which are generated by the voltage or current applied to the first and second magnets.

13. The method according to claim 10, wherein the first and second magnets have relaxed states that are achievable with a known probability after magnetization of the first and second magnets.

14. The method according to claim 10, comprising applying a voltage or current having a negative polarity and relaxing the first and second magnets to a ferromagnetic ordering.

15. The method according to claim 10, comprising applying a voltage or current having a positive polarity and relaxing the first and second magnets to an anti-ferromagnetic ordering.

16. A method comprising:

arranging a plurality of magnets in a circuit architectural configuration with an interconnect electrically coupling each pair of magnets;

for each pair of magnets:

applying a voltage or current to the two magnets; and

magnetizing the two magnets to a superposition state along respective neutral axes of the two magnets.

17. The method according to claim 16, comprising magnetizing each pair of magnets by applying an external magnetic field, a spin transfer torque effect, or a voltage induced rotation of magnetization.

18. The method according to claim 16, further comprising relaxing each pair of magnets to a final state based on the polarity and magnitude of the voltage or current applied to the pair of magnets, the final state for at least one pair of magnets being achievable with a known probability.

19. The method according to claim 18, comprising relaxing each pair of magnets to a final state of a ferromagnetic ordering by applying a voltage or current having a negative polarity.

20. The method according to claim 18, comprising relaxing each pair of magnets to a final state of an anti-ferromagnetic ordering by applying a voltage or current having a positive polarity.

What is claimed is:

1. A device comprising:

a first magnet;

a second magnet; and

an interconnect between and interconnecting the first and second magnets, the interconnect configured to allow the first and second magnets to communicate via a voltage or current applied to the first and second magnets and conducted by the interconnect;

wherein the first and second magnets have superposition states that are achievable by magnetizing the first and second magnets, and wherein magnetization of the first and second magnets is applied along respective neutral axes of the first and second magnets by a pulsing agent having a pulsing period of 100 picosecond (ps) to 10 millisecond (ms).

2. The device according to claim 1, wherein the first and second magnets are nanomagnets.

3. The device according to claim 1, wherein the first and second magnets communicate via spin polarized currents, spin waves, or a domain wall, and the pulsing agent is an external magnetic field, a spin transfer torque effect, or a voltage induced rotation of magnetization.

4. The device according to claim 1, wherein the first and second magnets have relaxed states that are achievable after magnetization of the first and second magnets.

5. The device according to claim 4, wherein the relaxed states of the first and second magnets are achieved with a known probability and based on a polarity and magnitude of the voltage or current applied to the first and second magnets.

6. The device according to claim 4, wherein the relaxed states are ferromagnetic ordering if the voltage or current applied to the first and second magnets has a negative polarity, and the relaxed states are anti-ferromagnetic ordering if the voltage or current applied to the first and second magnets has a positive polarity.

7. The device according to claim 1, wherein communications between the first and second magnets are tunable based on the magnitude and polarity of the voltage or current applied to the first and second magnets.

8. A method comprising:

electrically coupling a first magnet and a second magnet by an interconnect;

applying a voltage or current to the first and second magnets; and

configuring the interconnect to allow the first and second magnets to communicate in response to the voltage or current;

wherein the first and second magnets are magnetized to a superposition state along respective neutral axes of the first and second magnets by a pulsing agent for a pulsing period of 100 picosecond (ps) to 10 millisecond (ms).

9. The method according to claim 8, further comprising relaxing the first and second magnets to a state that is based on the polarity and magnitude of the voltage or current applied to the first and second magnets.

10. The method according to claim 9, comprising magnetizing the first and second magnets by subjecting the first and second magnets to an external magnetic field, a spin transfer torque, or a voltage induced rotation.

11. The method according to claim 10, wherein the superposition state of the magnets is achieved by the spin transfer torque having a current of 5 μA to 10 mA.

12. The method according to claim 10, wherein the voltage induced rotation uses a voltage of 5mV to 10V.

13. The method according to claim 9, wherein the first and second magnets communicate via spin polarized currents, spin waves, or a domain wall, all of which are generated by the voltage or current applied to the first and second magnets.

14. The method according to claim 9, wherein the first and second magnets have relaxed states that are achievable with a known probability after magnetization of the first and second magnets.

15. The method according to claim 9, comprising applying a voltage or current having a negative polarity and relaxing the first and second magnets to a ferromagnetic ordering.

16. The method according to claim 9, comprising applying a voltage or current having a positive polarity and relaxing the first and second magnets to an anti-ferromagnetic ordering.

17. A method comprising:

arranging a plurality of magnets in a circuit architectural configuration with an interconnect electrically coupling each pair of magnets;

for each pair of magnets:

applying a voltage or current to the two magnets; and

magnetizing the two magnets to a superposition state along respective neutral axes of the two magnets by a pulsing agent for a pulsing period of 100 picosecond (ps) to 10 millisecond (ms).

18. The method according to claim 17, comprising magnetizing each pair of magnets by applying an external magnetic field, a spin transfer torque effect, or a voltage induced rotation of magnetization.

19. The method according to claim 17, further comprising relaxing each pair of magnets to a final state based on the polarity and magnitude of the voltage or current applied to the pair of magnets, the final state for at least one pair of magnets being achievable with a known probability.

20. The method according to claim 19, comprising relaxing each pair of magnets to a final state of a ferromagnetic ordering by applying a voltage or current having a negative polarity.

21. The method according to claim 19, comprising relaxing each pair of magnets to a final state of an anti-ferromagnetic ordering by applying a voltage or current having a positive polarity.