CLAIMS:

~~A material shaping~~ 1. A system, comprising:

~~1.~~ a medium disposed on a base;

a plurality of transducers coupled to the base;

an actuator coupled to a transducer of the plurality of transducers; and

a controller communicatively coupled to the plurality of transducers such that each individual transducer of the plurality of transducers is individually addressable by the controller, wherein the controller is configured to: receive feedback and to instruct at least some of the individual transducers of the plurality of transducers to activate to move the medium on the base to create a shaped surface based on the feedback~~.~~

~~2. The material shaping~~; and instruct the actuator to move the transducer relative to the base in response to the feedback.

2. The system of claim 1, wherein each individual transducer of the plurality of transducers, when active, generates an acoustic wave, a mechanical wave, or any combination thereof.

~~3. The material shaping system of claim 1, comprising an individual actuator coupled to each individual transducer of the plurality of transducers respectively, wherein the controller is configured to instruct the individual actuator to move the individual transducer relative to the base in response to the feedback.~~

~~4. The material shaping~~

3. The system of claim 1, comprising a sensor configured to determine an operating parameter of the system, wherein the feedback comprises the operating parameter, and wherein the operating parameter comprises one or more characteristics of the shaped surface, a force exerted onto the base, a temperature of the medium, a force

exerted onto the medium, a time of operation of the system, or any combination thereof.

~~5.~~

4. The ~~material shaping~~ system of claim 1, wherein the controller comprises a user interface, and the feedback is a user input received from the user interface.

~~6.~~

5. The ~~material shaping~~ system of claim ~~1,~~ 4, wherein the user input is indicative of a direct manipulation of the medium.

~~7.~~

6. The ~~material shaping~~ system of claim 1, wherein the medium comprises a plurality of granular particles, a fluid, or any combination thereof.

7. A system, comprising:

~~8. A material shaping system, comprising:~~ a medium disposed on a base;

a plurality of transducers coupled to the base, wherein each transducer of the plurality of transducers is configured to be activated to cause local vibration within the medium;

a projector configured to project an image toward the base; and

a controller communicatively coupled to the plurality of transducers and the projector, wherein the controller is configured to:

receive feedback indicative of an operating parameter of the system;

instruct at least a portion of the transducers of the plurality of transducers to activate based on the feedback to form a shaped surface from the medium on the base; and

instruct the projector to project the image toward the medium and/or the base in response to the feedback.

~~9.~~

8. The ~~material shaping~~ system of claim ~~8~~7, wherein the feedback is indicative of a profile of the medium, and wherein the controller is configured to instruct the projector to project the image toward the base to align the image with the shaped surface based on the profile.

~~10.~~

9. The ~~material shaping~~ system of claim ~~8~~7, wherein the feedback comprises a user selection of a combination of a pre-programmed operation of the plurality of

transducers and a pre-programmed operation of the projector, and wherein the controller is configured to instruct each transducer of the plurality of transducers to emit a particular wave and to instruct the projector to project a particular image toward the medium and/or the base in response to the user selection.

~~11.~~

10. The ~~material shaping~~ system of claim ~~8~~7, wherein projecting the image toward the medium and/or the base comprises dynamically mapping the image onto an exposed surface of the medium.

~~12.~~

11. The ~~material shaping~~ system of claim ~~8~~7, comprising a barrier surrounding and in contact with at least a portion of a perimeter of the base, wherein a transducer of the plurality of transducers is positioned against the barrier.

~~13.~~

12. The ~~material shaping~~ system of claim ~~8~~7, wherein the plurality of transducers comprises a first transducer configured to emit a first wave to cause a first vibration and a second transducer configured to emit a second wave to cause a second vibration, wherein the controller is configured to instruct the first transducer to emit the first wave to interfere with the second wave emitted by the second transducer.

~~14.~~

13. The ~~material shaping~~ system of claim ~~8~~7, comprising a prop- disposed within

the medium, wherein the feedback is indicative of a target position of the prop relative to the base, and the controller is configured to instruct at least the portion of transducers of the plurality of transducers to activate to move the prop toward the target position.

14. A system, comprising:

~~15. A material shaping system, comprising:~~ a base;

a medium disposed on the base;

a plurality of transducers coupled to the base, wherein each transducer of the plurality of transducers is configured to be activated to cause local vibration within the medium;

a user interface; and

a controller communicatively coupled to the plurality of transducers and the user interface, wherein the controller is configured to:

receive feedback indicative of an operating parameter of the system from the user interface; and

instruct at least a portion of the transducers of the plurality of transducers to activate based on the feedback to move the medium to form a shaped surface on the base.

~~16.~~

15. The ~~material shaping~~ system of claim ~~15~~14, wherein the feedback is indicative of a selected orientation of a transducer of the plurality of transducers relative to the base, a selected wave to be emitted by a transducer of the plurality of transducers, a selected pre-programmed operation of a transducer of the plurality of transducers, or any combination thereof.

~~17.~~

16. The ~~material shaping~~ system of claim ~~15~~14, wherein the controller is configured to instruct an actuator of the system to drive a transducer of the plurality of transducers to move relative to the base.

~~18.~~

17. The ~~material shaping~~ system of claim ~~15~~14, wherein the user interface comprises a touchscreen, a computing device, a display, a joystick, a slider, a knob, a switch, a button, or any combination thereof.

~~19.~~

18. The ~~material shaping~~ system of claim ~~15~~14, comprising one or more damping structures that at least partially isolate individual transducers of the plurality of transducers from one another or the base.

~~20.~~

19. The ~~material shaping~~ system of claim ~~15~~14, wherein the feedback is transmitted from a sensor of the system, wherein the sensor is configured to detect an operating parameter of the medium, and the sensor is a position sensor, a pressure sensor, a motion sensor, an image sensor, an acoustic transducer, an infrared radiometer, or any combination thereof.