These brief 15-minute movement activities provide a variety of ways to explore the surprising connections between dance and mathematics. They do not require dance experience and will be fun for all. Please plan to be present for the full 15 minutes of each activity that you attend.

2:30 - 2:45 pm: **Discovering Hidden Rotations with Your Phone Camera**, *led by Vijay Ravikumar*
Can you keep your gaze locked on an object that rotates about your head in a vertical plane? What kind of loop does your head make in the process? It may seem hard to describe, but by letting your phone be the rotating object and keeping the camera fixed on your face, you can create a video that reveals the surprising answer

2:50 - 3:05 pm: **Line Dance** *led by Francesca Neri Macchiaverna*
This activity explores geometric concepts through body movement in relationship to ancient history. Participants use ribbons to explore spatial connections that evoke lines and circles in early geometry. These actions are reminiscent of the use of ropes in ancient Egypt for surveying of land and to ancient Greek geometric concepts.

3:10 - 3:25 pm: **Connecting Indian Dance and Math**, *led by Janani Suresh Ram*
This is an interactive session designed for children and adults to explore the deep connections between movement, rhythm, and mathematical thinking. Rooted in Indian classical dance, this hands-on workshop combines traditional Indian dance vocabulary with playful, accessible activities to transforms abstract mathematical ideas into tangible, embodied experiences.

3:30 - 3:45 pm: **Embodied Permutations**, *led by Tom Verhoeff*
Participants will experience problems involving permutations or rearrangements. The participants will act as the items being permuted as they switch places with adjacent people. In the 17th century these ideas were developed in the "change ringing" of church bells. Similar ideas are at play in a contemporary mathematics problem solved by the presenter.

3:50- 4:05 pm: **Dancing Geometry**, *led by Ratih Ayu Apsari*
Do you know that you can create an invisible line or other types of objects that help you move as you are dancing? Through our exploration of basic configuration in Balinese dance, we'll be able to help you make those figures visible. You can use them to support your geometrical reasoning!

4:10 - 4:30 pm: **Dances with Permutations**, *led by Jeff Suzuki*
In mathematics, a permutation is a rearrangement of objects, like that which occurs during a choreographed dance. In this activity, we'll introduce some basic ideas of permutations and see how they work together in an English Country-style dance.

4:30 - 4:45 pm: **Stepping and Clapping: A Quick Introduction to Rhythm and Movement**, *led by Karl Schaffer*
Participants will perform simple clapping and slapping rhythms which are quickly transformed to clapping and stepping movement patterns. The overlaying of two such rhythmic patterns produces simple examples of polyrhythms such as those found in many forms of world music. These polyrhythms can be represented geometrically as star polygons.